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Industrial Manufacturing Engineering Textbook Catalogue Spring 2024

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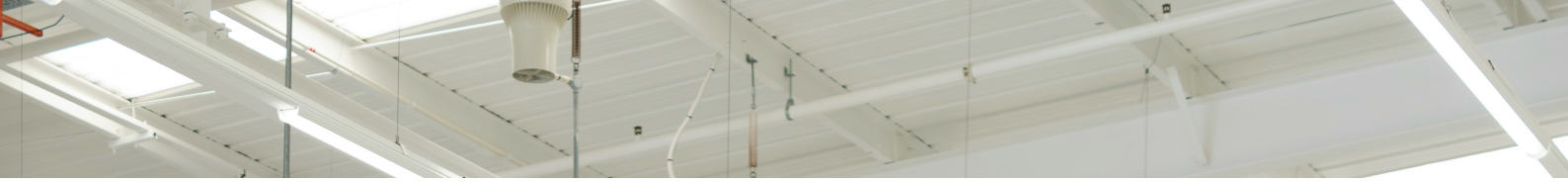

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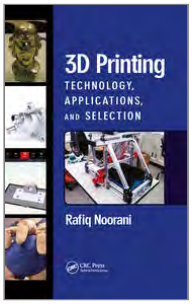
Contents

3D Printing

Technology, Applications, and Selection



Rafiq Noorani

3D Printing is a faster, more cost-effective method for building prototypes from three-dimensional computer-aided design (CAD) drawings. 3D Printing provides a fundamental overview of the general product design and manufacturing process and presents the technology and application for designing and fabricating parts in a format that makes learning easy. This user-friendly book clearly covers the 3D printing process for designers, teachers, students, and hobbyists and can also be used as a reference book in a product design and process development.

CRC Press
March 2021:293
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Pb: 978-0-367-78196-5: **£42.99**
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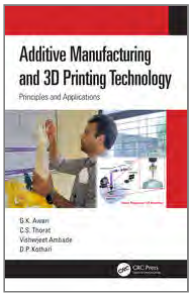
Additive Manufacturing and 3D Printing Technology

Principles and Applications



G.K. Awari, C. S. Thorat, Vishwjeet Ambade, D. P. Kothari

This standard textbook consists of the construction and working details of all modern as well as fundamentals of Additive Manufacturing and 3D Printing technology processes and machines. The book is written so that it will help the reader to understand the systems fundamentally. The reader of any level irrespective of basic knowledge will be able to understand this book. With the block diagrams, self-explanatory figures, chapter questions, and photographs of lab developed prototypes, along with case studies, this new textbook will be useful to students studying courses in Mechanical, Production, Design, and Electrical Engineering.

CRC Press
February 2021:309
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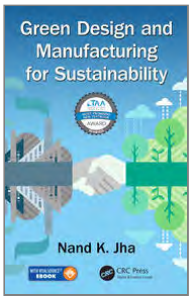
Green Design and Manufacturing for Sustainability



Nand K. Jha

This textbook integrates green design and manufacturing within the framework of sustainability, emphasizing cost, recyclables, and reuse. This book includes the analytical techniques for cost minimization, reduction of material waste, and the reduction of energy consumption during the manufacturing process. All aspects of green design, economics, feasible material selection, and relevant and efficient manufacturing processes are presented. Techniques including life cycle cost assessment, reuse, and recyclables are showcased with examples and problems solved.

CRC Press
December 2015:838
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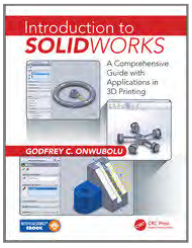
eBook: 978-0-429-07828-6
* For **full contents** and more information, visit: **www.routledge.com/9781466505261**

Introduction to SolidWorks

A Comprehensive Guide with Applications in 3D Printing



Godfrey C. Onwubolu

This senior undergraduate level textbook is written for Advanced Manufacturing, Additive Manufacturing, as well as CAD/CAM courses. Its goal is to assist students in colleges and universities, designers, engineers, and professionals interested in using SolidWorks as the design and 3D printing tool for emerging manufacturing technology for practical applications. This textbook will bring a new dimension to SolidWorks by introducing readers to the role of SolidWorks in the relatively new manufacturing paradigm shift, known as 3D-Printing which is based on Additive Manufacturing (AM) technology.

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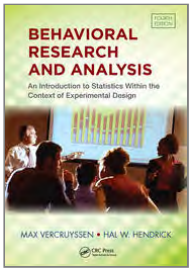
An Introduction to Statistics within the Context of Experimental Design, Fourth Edition



Max Vercruyssen, Hal W. Hendrick

This text provides an overview of basic statistical methods used in behavioral research, experimental design, and report writing. It uniquely integrates statistics within the context of experimental design and simplifies the process of planning, conducting, analyzing, and preparing an experimental or research study report. Completely updated, this fourth edition presents new statistical procedures and new examples in sport science, public health, gerontology, and biomedicine. It also reflects the changes of the APA guidebook and includes SAS statistical software in the end-of-chapter exercises.

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2ND EDITION

Assembly Automation and Product Design

Geoffrey Boothroyd

Series: Manufacturing Engineering and Materials Processing

The design for assembly (DFA) method has become a widely used way for companies to introduce competitive designs at reduced costs. This text places the consideration and application of automatic assembly in the context of DFA, addressing product design for both automated and manual assembly processes. The author enumerates the components, processes, performance, and comparative economics of several types of automatic assembly systems. To this end, the book includes specific information on equipment such as transfer devices, parts feeders, feed tracks, placing mechanisms, and robots. This is an ideal reference and guide for manufacturing, product design, mechanical, and industrial engineers.

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Data Mining

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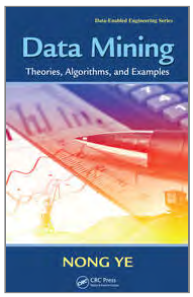

Nong Ye

Series: Human Factors and Ergonomics

Written for those with a science and engineering background, this book introduces and explains a comprehensive set of data mining techniques from various data mining fields. Concepts and methodologies are illustrated through numerous examples of data mining applications in cyber attack detection, discovery of neuronal population dynamics, and manufacturing quality control. Other topics include methodologies for mining classification and prediction patterns, mining clustering, and mining data reduction patterns and sequential and time series patterns.

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Cost Analysis for Engineers and Scientists

Fariborz Tayyari

Series: Manufacturing and Production Engineering

This textbook introduces the fundamentals accounting information systems and manufacturing costs. It also presents product costing and manufacturing cost allocation to individual as well as joint products. The concepts and applications of cost-volume-profit and breakeven analysis for single-product and multiple-products are also discussed. A solutions manual and PowerPoint slides are available for qualified textbook adoptions.

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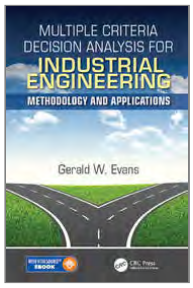
Multiple Criteria Decision Analysis for Industrial Engineering

Methodology and Applications



Gerald William Evans

Series: Operations Research Series

This adv. undergraduate and graduate textbook prepares the industrial engineering student on how to deal with a variety of problems that require making decisions involving multiple criteria and/or uncertainty/risk. This book is designed for students who are studying industrial engineering, but it could also be used in programs designed for business/mgmt. as well. Comprehensive in coverage and related areas such as simulation optimization. It also emphasis applications involving industrial engineering, engineering economics, location and layout design, quality mgmt., project mgmt., healthcare mgmt. & operations, and the use of simulation for system design & operations in general.

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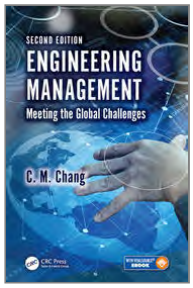

C. M. Chang

Since publication of the first edition, the world has continued to become an increasingly competitive and fast moving global economy. The new millennium brings in rapid change in customer needs and wants, enhanced mobile communications, stiffer competition in the marketplace, and advances in various technologies. These combined spatial and temporal effects require engineering professionals and engineering managers to be properly prepared in meeting the unprecedented challenges of our globalized economy. This was the focus of the first edition of the book. This second edition retains the same central theme.

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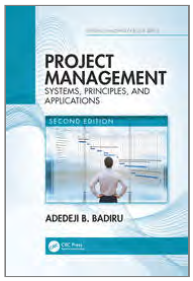
Systems, Principles, and Applications, Second Edition



Adedeji B. Badiru

The goal of the new edition is to continue with a systems view of the world. For a more robust and worldwide market dissemination, the new edition has changed to a reference book. The project systems approach to project management, is needed in executing projects across countries and across cultures, which is a crucial requirement in today's globalized and intertwined economics. The book uses ample graphical representations to clarify the concepts and techniques presented. The case examples help to reinforce the topics covered. Several illustrative examples and practice exercises are included. Each chapter is updated and new chapters include Project Simulation and Project Templates.

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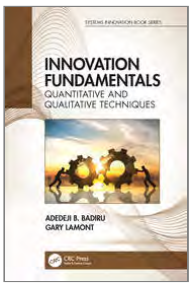
Innovation Fundamentals

Quantitative and Qualitative Techniques



Adedeji B. Badiru, Gary Lamont

Series: Systems Innovation Book Series

This book uses a systems-based approach to show how innovation is pervasive in all facets of endeavors, including business, industrial, government, the military, and even academia. This book presents chapters that provide techniques and methodologies for achieving the transfer of science and technology assets for innovation applications. This book is written for the textbook market as well as for the professional reader within the engineering, business, and management fields.

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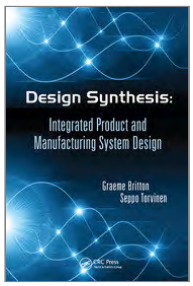
Design Synthesis

Integrated Product and Manufacturing System Design



Graeme Arthur Britton, Seppo Torvinen

This textbook provides a conceptual framework and methodologies for integrating product design and manufacturing. The readers should be able to use the framework and methodologies provided to jointly optimize the design/re-design of new products and manufacturing systems to produce better quality products faster and cheaper. The textbook includes homework problems and numerous real life examples. An SM and PP Slides will go along with the book to enhance textbook adoptions.

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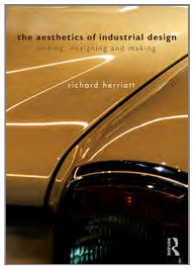
The Aesthetics of Industrial Design

Seeing, Designing and Making



Richard Herriott

This textbook introduces design students to key principles of three-dimensional form, bridging aesthetics and practical design objectives. It explores how we see and what it is that characterises visually appealing and satisfactory design. Written by an experienced designer, educator and researcher, the book equips students with the knowledge and understanding of how aesthetically superior design is distinct from lesser work. It explains the key principles and concepts they can incorporate into their own designs, encourages readers to investigate and experiment with real design problems, and enables them to verbally communicate their design intentions.

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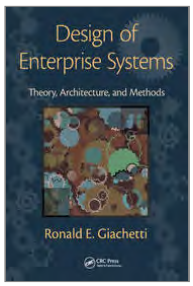
Design of Enterprise Systems

Theory, Architecture, and Methods



Ronald Giachetti

Specifically written for graduate and undergraduate courses, this book provides the knowledge and skills necessary to lead enterprise engineering projects. The book describes a systematic methodology to design an enterprise system and presents an enterprise architecture that has three views of process, information, and organization. The text includes methods to analyze and design each view and then demonstrates how to integrate them to arrive at the overall enterprise design.

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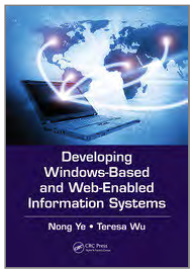
Developing Windows-Based and Web-Enabled Information Systems



Nong Ye, Teresa Wu

Series: Data-Enabled Engineering

This textbook covers concepts, methods, programming languages and software tools of designing and developing both Windows-based and Web-based information systems, specifically data modeling and design methods. It is designed to enable students and professionals in engineering, business and science fields to learn up-to-date concepts, methods and software tools for developing Windows and web-based information systems.

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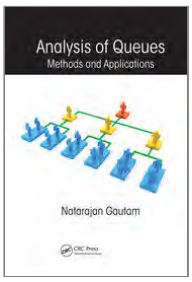
Analysis of Queues

Methods and Applications



Natarajan Gautam

Series: Operations Research Series

Analysis of queues is used in a variety of domains including call centers, web servers, internet routers, manufacturing and production, telecommunications, transportation, hospitals and clinics, restaurants, and theme parks. Combining elements of classical queueing theory with some of the recent advances in studying stochastic networks, this book covers a broad range of applications. It contains numerous real-world examples and industrial applications in all chapters. The text is suitable for graduate courses, as well as researchers, consultants and analysts that work on performance modeling or use queueing models as analysis tools.

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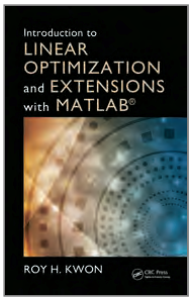
Introduction to Linear Optimization and Extensions with MATLAB®



Roy H. Kwon

Series: Operations Research Series

Filling the need for an introductory book on linear programming that discusses the important ways to mitigate parameter uncertainty, this book includes two major ways of including parameter uncertainty: stochastic linear programming and robust linear optimization. It offers a vigorous development of linear programming theory and methods by presenting basics before theory. It also presents financial optimization case studies that consolidate the material presented within the book. A student solutions manual is provided, as well as MATLAB exercises and code accessible by website. MATLAB exercises, a student solutions manual, and an extensive bibliography are included.

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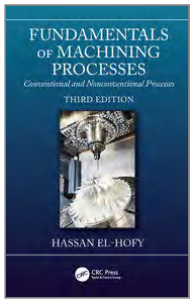
Conventional and Nonconventional Processes, Third Edition



Hassan El-Hofy

Written by an expert with over 40 years of experience in research and teaching machining and related topics, this new edition textbook presents the principles and theories of material removal and applications for conventional and nonconventional machining processes. The new edition is ideal for undergraduate students in production, materials, industrial, mechatronics, marine, mechanical, and manufacturing engineering programs, and also useful for graduate programs related to higher-level machining topics, as well as professional engineers and technicians. All chapters will be updated, with 4 new chapters added.

CRC Press
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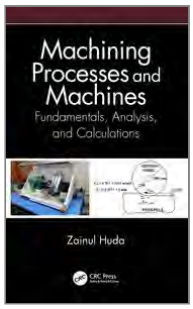
Machining Processes and Machines

Fundamentals, Analysis, and Calculations



Zainul Huda

This textbook covers the fundamentals and engineering analysis of conventional and advanced/non-traditional material removal processes along with gear cutting/manufacturing and computer numerically controlled (CNC) machining. It provides a holistic understanding of machining processes and machines in manufacturing; it enables critical thinking through mathematical modeling and problem solving, and offers 200 worked examples/calculations and 70 multiple choice questions on machining operations as well as on CNC machining, with the eBook in color. This unique book is useful to both engineering-degree students and production engineers practicing in manufacturing industry.

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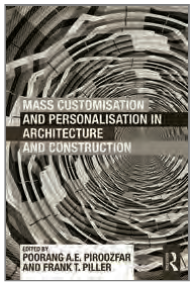
Mass Customisation and Personalisation in Architecture and Construction



Edited by **Poorang Piroozfar, Frank Piller**

Bringing together contributions from some of the most prominent thinkers and practitioners in the field including Kasper S. Vibaek, Steve Kendall, Martin Bechthold, Mitchell M. Tseng, and Masa Noguchi, this book provides an overview of state-of-the-art practice related to the concept of customization and personalization within the built environment. Selected Contents: Part 1: Principles of Mass Customisation Part 2: Enabling Technologies, Designs, and Business Models Part 3: Practical Applications, Prototypes and Experiences Part 4: Future Topics, New Potentials, Emerging Challenges

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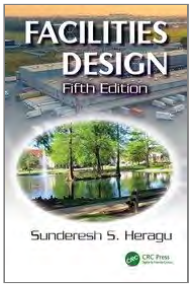
5TH EDITION

Facilities Design



Sunderesh S. Heragu

The book presents automated materials handling along with queuing, queuing networks, and basic simulation modeling. The new edition introduces new material that includes topics such as supply chain designing and management, aggregate planning, deterministic inventory control, stochastic inventory control and transportation, logistic, and distribution. The new edition will continue to provide access to Layout-iQ software and data files from the author's own website for many of the numerical examples contained in the book. A solutions manual, PowerPoint slides, and figure, slides are available for qualified textbooks adoptions.

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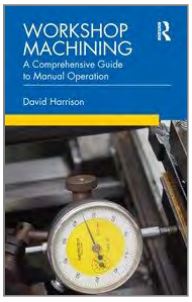
Workshop Machining

A Comprehensive Guide to Manual Operation



David Harrison

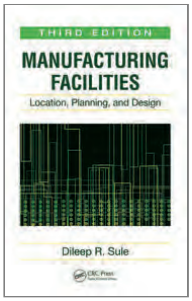
Workshop Machining is a comprehensive textbook that explains the fundamental principles of manually operating machinery to form shapes in a variety of materials. It bridges the gap between traditional toolmaking skills and programming and operation of CNC machines in a production environment. Everything is covered from the basic machine controls to advanced cutting operations using a wide range of tooling and work holding devices. Theory and practice are shown viaa mixture of diagrams, text and illustrated worked examples, as well as through exercises.

Routledge
December 2021:474
Hb: 978-0-367-27840-3: **£120**
Pb: 978-0-367-27839-7: **£45.99**
eBook: 978-0-429-29819-6
* For **full contents** and more information, visit: **www.routledge.com/9780367278397**

3RD EDITION

Manufacturing Facilities

Location, Planning, and Design, Third Edition



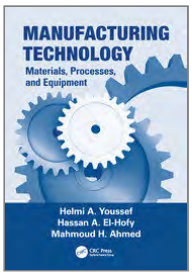
Dileep R. Sule

Global competition in manufacturing has made proficient facilities planning an important issue in industrial engineering and technology. From plant layout and materials handling to quality function deployment and design considerations, Manufacturing Facilities covers a wide range of topics crucial to the efficiency of a well-planned facility. Updated and revised, this third edition features new topics including lean manufacturing, agile manufacturing, supply chain effects, aggregate planning, scheduling, resource planning, graph theory, economic evaluation of processes, information technology. This edition also includes new mathematical methods, problems, and layout software.

CRC Press
December 2008:824
Hb: 978-1-420-04422-5: **£160**
eBook: 978-0-429-14486-8
* For **full contents** and more information, visit: **www.routledge.com/9781420044225**

Manufacturing Technology

Materials, Processes, and Equipment

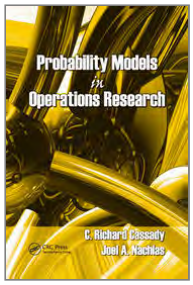


Helmi A. Youssef, Hassan A. El-Hofy, Mahmoud H. Ahmed

This text explores all of the manufacturing processes, materials, and equipment used to convert raw materials into a final product. It presents the most commonly used and recently developed manufacturing methods, along with applications, worked examples, exercises, and review questions. Materials covered include metallics, polymers, ceramics, and glasses. The book discusses heat treatments, smelting of metals, process casting, forming, powder metallurgy, joining processes, and surface technology. It also looks at the environmental aspects related to manufacturing and clean factories and describes trends in surface hardening technology.

CRC Press
March 2017:948
Hb: 978-1-439-81085-9: **£190**
Pb: 978-1-138-07213-8: **£74.99**
eBook: 978-0-429-18489-5
* For **full contents** and more information, visit: **www.routledge.com/9781138072138**

Probability Models in Operations Research



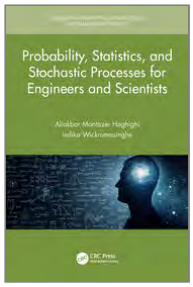
C. Richard Cassady, Joel A. Nachlas

Series: Operations Research Series

Balancing applications with mathematical rigor, Probability Models in Operations Research provides an introduction to the use of probability to define models that have applications in industrial engineering and operations research. With a concise review of the key components of probability theory, this book offers coverage of all basic model forms, probability modeling fundamentals, random variables analysis, multiple random variables analysis, Bernoulli processes, discrete-time Markov chains, Poisson processes, renewal processes, continuous-time Markov chains, and queueing theory. The text serves as a practical reference for those who use probability to model system behaviors.

CRC Press
September 2019:224
Hb: 978-1-420-05489-7: **£105**
Pb: 978-0-367-38704-4: **£59.99**
eBook: 978-0-429-14639-8
* For **full contents** and more information, visit: **www.routledge.com/9780367387044**

Probability, Statistics, and Stochastic Processes for Engineers and Scientists



Aliakbar Montazer Haghighi, Indika Wickramasinghe

Series: Mathematical Engineering, Manufacturing, and Management Sciences

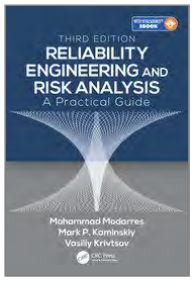
Featuring recent advances in probability, statistics, and stochastic processes, this new textbook presents Probability and Statistics, and an introduction to Stochastic Processes. The book presents key information for understanding the essential aspects of basic probability theory and concepts of reliability as an application. The purpose of this book is to provide an option in this field that combines these areas in one book, balances both theory and practical applications, and also keeps the practitioners in mind.

CRC Press
July 2022:634
Hb: 978-0-815-37590-6: **£145**
Pb: 978-0-367-50086-3: **£61.99**
eBook: 978-1-351-23840-3
* For **full contents** and more information, visit: **www.routledge.com/9780367500863**

3RD EDITION

Reliability Engineering and Risk Analysis

A Practical Guide, Third Edition



Mohammad Modarres, Mark P. Kaminskiy, Vasiliy Krivtsov

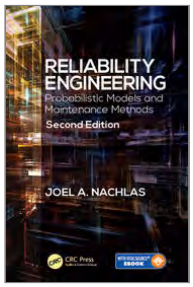
This undergraduate and graduate textbook provides a practical and comprehensive overview of reliability and risk analysis techniques. Written for engineering students and practicing engineers, the book is multi-disciplinary in scope. The new edition has new topics in classical confidence interval estimation; Bayesian uncertainty analysis; models for physics-of-failure approach to life estimation; extended discussions on the generalized renewal process and optimal maintenance; and further modifications, updates, and discussions. The book includes examples to clarify technical subjects and many end of chapter exercises. PowerPoint slides and a Solutions Manual are also available.

CRC Press
December 2016:522
Hb: 978-1-498-74587-1: **£91.99**
eBook: 978-1-315-38242-5
* For **full contents** and more information, visit: **www.routledge.com/9781498745871**

2ND EDITION

Reliability Engineering

Probabilistic Models and Maintenance Methods, Second Edition

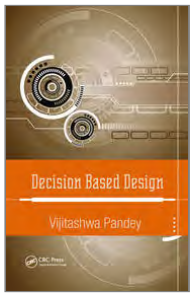


Joel A. Nachlas

Without proper reliability and maintenance planning, even the most efficient and seemingly cost-effective designs can incur enormous expenses due to repeated or catastrophic failure and subsequent search for the cause. Today's engineering students face increasing pressure from employers, customers, and regulators to produce cost-efficient designs that are less prone to failure and that are safe and easy to use. An understanding of reliability principles and maintenance planning can help accomplish these goals. With a blend of mathematical rigor and readability, this book is the ideal introductory textbook for graduate students.

CRC Press
December 2016:394
Hb: 978-1-498-75247-3: **£130**
eBook: 978-1-315-30759-6
* For **full contents** and more information, visit: **www.routledge.com/9781498752473**

Decision Based Design



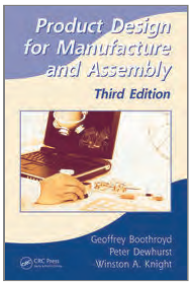
Vijitashwa Pandey

In a presentation that formalizes what makes up decision-based design, this book defines the major concepts that go into product realization. It presents all major concepts in design decision making in an integrated way and covers the fundamentals of decision analysis in engineering design. It also trains engineers to understand the impacts of design decision. The author teaches concepts in demand modeling and customer preference modeling and provides examples. This book teaches most fundamental concepts encountered in engineering design like: concept generation, multiattribute decision analysis, reliability engineering, design optimization, simulation, and demand modeling.

CRC Press
March 2021:284
Hb: 978-1-439-88232-0: **£115**
Pb: 978-0-367-78375-4: **£44.99**
eBook: 978-0-429-16130-8
* For **full contents** and more information, visit: **www.routledge.com/9780367783754**

3RD EDITION

Product Design for Manufacture and Assembly



Geoffrey Boothroyd, Peter Dewhurst, Winston A. Knight

Now in its third edition, this volume features new problem sets and student assignments, making this respected reference work now even more suitable for use in product design and design for manufacture courses. Chapters have been updated from previous editions with more recent case studies of the application of design for manufacture and assembly (DFMA) techniques, important industry changes, and emphasis on current trends such as design for power injection molding and surface mount devices. Each chapter also includes updated cost information on materials, labor, and machine operations.

CRC Press
December 2010:712
Hb: 978-1-420-08927-1: **£145**
eBook: 978-0-429-14296-3
* For **full contents** and more information, visit: **www.routledge.com/9781420089271**

2ND EDITION

Emotionally Durable Design

Objects, Experiences and Empathy

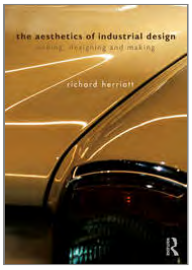
Jonathan Chapman

Emotionally Durable Design presents counterpoints to our 'throwaway society' by developing powerful design tools, methods and frameworks that build resilience into relationships between people and things. This second edition features pull-out quotes, illustrated product examples, a running glossary and comprehensive stand firsts. It is a daring call to arms for professional designers, educators, researchers and students from in a range of disciplines from product design to architecture; framing an alternative genre of design that reduces the consumption and waste of resources by increasing the durability of relationships between people and things.

Routledge
May 2015:224
Hb: 978-0-415-73216-1: **£175**
Pb: 978-0-415-73215-4: **£43.99**
eBook: 978-1-315-73880-2
* For **full contents** and more information, visit: **www.routledge.com/9780415732154**

The Aesthetics of Industrial Design

Seeing, Designing and Making



Richard Herriott

This textbook introduces design students to key principles of three-dimensional form, bridging aesthetics and practical design objectives. It explores how we see and what it is that characterises visually appealing and satisfactory design. Written by an experienced designer, educator and researcher, the book equips students with the knowledge and understanding of how aesthetically superior design is distinct from lesser work. It explains the key principles and concepts they can incorporate into their own designs, encourages readers to investigate and experiment with real design problems, and enables them to verbally communicate their design intentions.

Routledge
December 2021:224
Hb: 978-1-032-02419-6: **£135**
Pb: 978-1-032-02418-9: **£35.99**
eBook: 978-1-003-18330-3
* For **full contents** and more information, visit: **www.routledge.com/9781032024189**

Product Configurators

Tools and Strategies for the Personalization of Objects

Edited by **Fabio Schillaci**

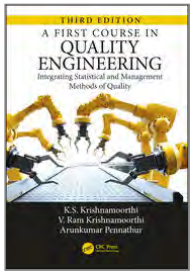
This book provides a source of inspiration and a manual for designers, entrepreneurs and professionals who are looking into the practical application of product configurators. The book delves into the practical application of configurators using case studies of selected firms that present their most significant works. It offers the reader tips, suggestions, technical details and critical issues which need to be considered, from experienced actors and pioneers worldwide, which include: Unfold, Belgium; In-flexions, France; Nervous System, USA; Okinlab, Germany; ZeroLight, United Kingdom and much more.

Routledge
November 2017:264
Hb: 978-0-415-79012-3: **£130**
Pb: 978-0-415-79013-0: **£52.99**
eBook: 978-1-315-21357-6
* For **full contents** and more information, visit: **www.routledge.com/9780415790130**

3RD EDITION

A First Course in Quality Engineering

Integrating Statistical and Management Methods of Quality, Third Edition



K.S. Krishnamoorthi, Arunkumar Pennathur, V. Ram Krishnamoorthi

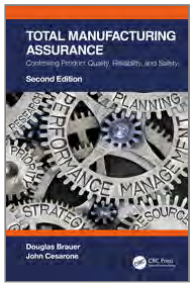
The book is a compilation of essential methodologies that have been developed over several decades for obtaining the needs of customers, designing a product that meets those needs, designing the processes to make the product, making the product according to those designs, and packaging and delivering the product so the customer receives the product they will be satisfied with. These methodologies use fundamentals for many disciplines, which can be broadly classified as statistical and managementmethods. This book includes the methods from both these areas in a balanced way so that those who are trained using this book will be able to make and deliver products that will meet customer needs.

CRC Press
September 2018:626
Hb: 978-1-498-76420-9: **£165**
eBook: 978-0-429-50562-1
* For **full contents** and more information, visit: **www.routledge.com/9781498764209**

2ND EDITION

Total Manufacturing Assurance

Controlling Product Quality, Reliability, and Safety



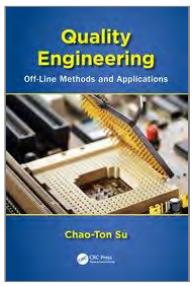
Douglas Brauer, John Cesarone

Using a holistic approach to manufacturing operations this new edition focuses on analytics and performance assessment along with Industry 4.0 and the role it plays in advanced manufacturing. The textbook covers strategic planning, innovation, and engineering economics, as well as the manufacturing process, materials, and operations. Product manufacturing system reliability, maintainability, availability, quality, and safety along with financial issues in decision making and engineering analysis are all captured in this new edition.

CRC Press
April 2022:372
Hb: 978-1-032-07636-2: **£89.99**
eBook: 978-1-003-20805-1
* For **full contents** and more information, visit: **www.routledge.com/9781032076362**

Quality Engineering

Off-Line Methods and Applications



Chao-Ton Su

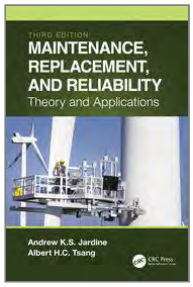
Quality is an essential determinant for achieving overall business success. Quality Engineering: Off-Line Methods and Applications discusses the use of quality engineering methods and other modern techniques to ensure design optimization in the product and process design stages for a company. Starting with the basics, this book presents an overall picture of quality engineering. It helps readers understand quality engineering methods such as DOE, Taguchi, RSM, and computational intelligence approaches. It also provides extensive examples and case studies, without extensive mathematical treatments, making it accessible to a broad audience.

CRC Press
February 2013:394
Hb: 978-1-466-56947-8: **£39.99**
eBook: 978-0-429-07160-7
* For **full contents** and more information, visit: **www.routledge.com/9781466569478**

3RD EDITION

Maintenance, Replacement, and Reliability

Theory and Applications



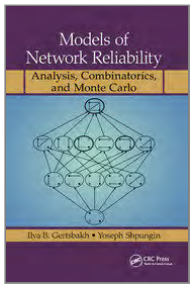
Andrew K. S. Jardine, Albert H. C. Tsang

Since the publication of the second edition in 2013, there have been an increasing interest in asset management globally as evidenced by a series of international standards on asset management systems, to achieve excellence in asset management. This can not be achieved without high quality data and the tools for data interpretation. The importance of such requirements is widely recognized by industry. This new edition textbook can be used by undergraduate or post graduate courses on physical asset management. Problem sets with answers are provided at the end of each chapter, and additional resources are available, including an extensive set of PowerPoint slides, and a solutions manual.

CRC Press
September 2021:412
Hb: 978-0-367-07605-4: **£110**
eBook: 978-0-429-02156-5
* For **full contents** and more information, visit: **www.routledge.com/9780367076054**

Models of Network Reliability

Analysis, Combinatorics, and Monte Carlo



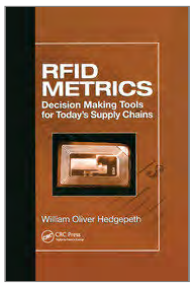
Ilya B. Gertsbakh, Yoseph Shpungin

This volume provides an introduction to Monte Carlo methods and a exposition of Reliability Theory ideas. It investigates a collection of principal network reliability models and provides solutions for principal network reliability problems as Monte Carlo algorithms. Written by reliability experts with significant teaching experience, this text serves the needs of software, industrial, and reliability engineering students, researchers, and engineers. Stressing intuitive explanations and providing detailed proofs of difficult statements, the book offers end-of-chapter exercises with worked examples making it ideal for self study.

CRC Press
September 2019:219
Hb: 978-1-439-81741-4: **£84.99**
Pb: 978-0-367-38465-4: **£59.99**
eBook: 978-0-429-16616-7
* For **full contents** and more information, visit: **www.routledge.com/9780367384654**

RFID Metrics

Decision Making Tools for Today's Supply Chains



William Oliver Hedgepeth

Based on the author's experience testing and implementing RFID technology in both industrial and military cases, this text explains how to evaluate the need for this technology. The book discusses current RFID applications around the world, reveals key metrics for decision making as well as how to develop new metrics unique to RFID, demonstrates a war game for exploring RFID, and presents statistical methods for analyzing the data collected from the war games or gathered during implementation.

CRC Press
October 2019:152
Hb: 978-0-849-37979-6: **£105**
Pb: 978-0-367-38990-1: **£59.99**
eBook: 978-0-429-07515-5
* For **full contents** and more information, visit: **www.routledge.com/9780367389901**

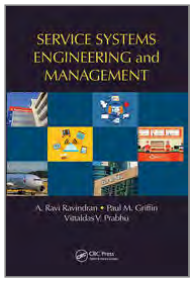
Supply Chain Management for Engineers

Samuel H. Huang

The book focuses on helping students develop strong analytical skills and the ability to solve real-world problems through analysis and synthesis. It also stresses the importance of integrating engineering optimization techniques with business strategic thinking. It starts with the description of different types of supply chains and the strategy for designing an appropriate supply chain based on product life cycle analysis. It then focuses on quantitative analysis techniques including demand forecasting, aggregate planning, inventory management, and distribution network design. It also covers supplier selection.

CRC Press
June 2013:240
Hb: 978-1-138-45563-4: **£185**
Pb: 978-1-466-56892-1: **£105**
eBook: 978-0-429-09937-3
* For **full contents** and more information, visit: **www.routledge.com/9781466568921**

Service Systems Engineering and Management



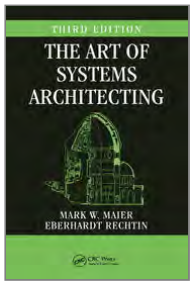
A. Ravi Ravindran, Paul M. Griffin, Vittaldas V. Prabhu

This new textbook will provide state-of-the-art models, concepts and solution methods important in the design, control, operation, and management of service systems. It will cover supply chain management, warehouse & distribution, financial engineering, revenue management in airlines, retail engineering, health systems, and financial services, etc... The textbook is for the engineering market, emphasizing the application of operations research models to optimally design and manage service systems. Currently, no such textbook exists in the market.

CRC Press
March 2021:618
Hb: 978-1-498-72306-0: **£115**
Pb: 978-0-367-78132-3: **£44.99**
eBook: 978-1-351-05418-8
* For **full contents** and more information, visit: **www.routledge.com/9780367781323**

3RD EDITION

The Art of Systems Architecting



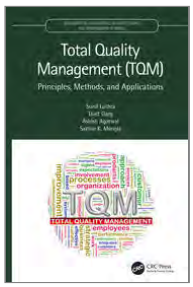
Mark W. Maier

The third edition of this bestselling text explains how to create a system from scratch, presenting invention/design rules together with clear explanations of how to use them. The author supplies practical guidelines for avoiding common systematic failures while implementing new mandates. He uses a heuristics-based approach that provides an organized attack on very ill-structured engineering problems. Examining architecture as more than a set of diagrams and documents, but as a set of decisions that either drive a system to success or doom it to failure, the book provides methods for integrating business strategy with technical architectural decision making.

CRC Press
June 2021:466
Hb: 978-1-420-07913-5: **£115**
Pb: 978-1-032-09952-1: **£45.99**
eBook: 978-0-429-19614-0
* For **full contents** and more information, visit: **www.routledge.com/9781032099521**

Total Quality Management (TQM)

Principles, Methods, and Applications



Sunil Luthra, Dixit Garg, Ashish Agarwal, Sachin K. Mangla

Series: Mathematical Engineering, Manufacturing, and Management Sciences

Total Quality Management (TQM) integrates all phases and ensures a defect free quality product. This book provides the understanding of all aspects of TQM and the implementation.This textbook covers all aspects of TQM, discusses quality systems in detail, highlights the importance of the needs of the customer, and presents the concept of Total Productive Maintenance (TPM). Written as a textbook for students of engineering and management, but also explains all quality systems which will be helpful to all organisations in choosing the correct quality system and helpful to managers in decisions making while analyzing any process.

CRC Press
October 2020:222
Hb: 978-0-367-51283-5: **£120**
eBook: 978-1-003-05315-6
* For **full contents** and more information, visit: **www.routledge.com/9780367512835**

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