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# Engineering

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# Engineering

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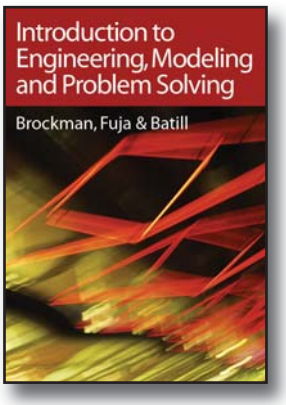



## Introduction to Engineering, Modeling and Problem Solving

2nd Edition

**JAY B. BROCKMAN**
**THOMAS FUJA**
**STEPHEN BATILL, all of University of Notre Dame.**

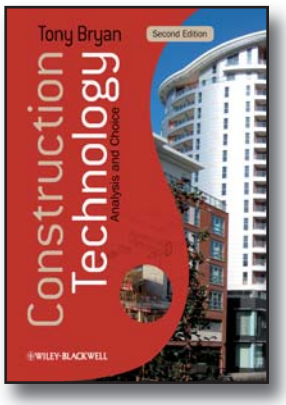
This book is written in a way that changes the perspective of readers and their adherence to formulas, placing them in a decision-making context.

Through clear explanations and real-world examples, the second edition shows how to apply science and technology to solve problems facing society today.

**Contents:** Part I: The Engineering Mindset. 1 Engineering and Society. 2 Organization and Representation of Engineering Systems. 3 Learning and Problem Solving. Part II: Model-Based Design. 4 Laws of Nature and Theoretical Models. 5 Data Analysis and Empirical Models. 6 Modeling Interrelationships in Systems: Lightweight Structures. 7 Modeling Interrelationships in Systems: Digital Electronic Circuits. 8 Modeling Change in Systems. Part III: Problem Solving with MATLAB. 9 Getting Started with MATLAB. 10 Vector Operations in MATLAB. 11 Matrix Operations in MATLAB. 12 Introduction to Algorithms and Programming in MATLAB. Appendix A Problem Solving Process. Appendix B Bloom's Taxonomy: Levels of Understanding. Appendix C Engineering Societies and Professional Organizations. Appendix D Systems of Units.

**www.wileyeurope.com/college/brockman**

**9780470565186 • 600pp • May 2010 • Pbk**
**£42.99/€49.50**




## Construction Technology: Analysis and Choice

2nd Edition

**TONY BRYAN, University of the West of England.**

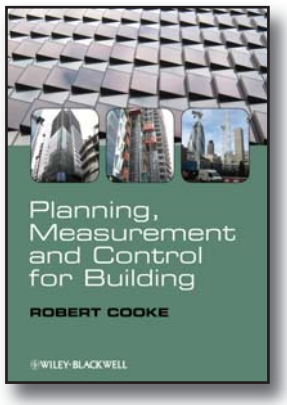
This new edition has been expanded to include commercial buildings, covering all the basic forms of construction studies on professional courses.

This book takes as its theme the process of choice: what the expert has to know, and how decisions about the design, production, maintenance and disposal of buildings may be thought through.

**Contents:** 1 The Framework for Understanding. 2 Building Purpose and Performance 3 Common Forms – Specific Solutions. 4 Construction Variables. 5 Defining Conditions. 6 The Resource Base. 7 Design Concept. 8 Appearance. 9 Analysis of Physical Behaviour. 10 Physical Behaviour Creating Environments. 11 Physical Behaviour Under Load. 12 Physical Behaviour Over Time. 13 Manufacture and Assembly. 14 Cost. 15 Sustainability – Social Concern. 16 Applying the Framework to Housing. 17 Floors. 18 Roofs. 19 Walls. 20 Foundations. 21 Services. 22 Applying the framework to commercial buildings. 23 Common forms and emerging technologies. 24 Interface design. 25 Structural skeletal frames. 26 Roof structures. 27 Loadbearing structural walls. 28 Structure below ground. 29 External enclosure to structural frames. 30 Internal enclosure. 31 Services – scope and space. 32 Guide to Further Reading. Summary. Index.

**www.wileyeurope.com/college/bryan**

**9781405158749 • 504pp • March 2010 • Pbk**
**£29.99/€34.50**




## Planning, Measurement and Control for Building

**ROBERT COOKE, Barking College, UK.**

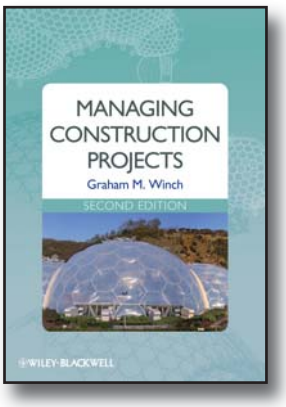
This title is an up-to-date and easy to read overview of the processes by which building projects are planned, their costs and materials estimated and the building work controlled.

With many colour photographs and diagrams, the book focuses on construction as a team effort and shows how various elements combine to enable these teams to work together to deliver construction projects that meet the needs of clients. The coverage is completed by discussing three very different projects, from inception to topping out of a prestigious office development, illustrating how all of the technical aspects of design and legislation are put into place on real projects.

**Contents:** 1 Building contracts. 2 The design team. 3 The construction team. 4 Stages of design. 5 Costings. 6 Stages of construction. 7 Acts and regulations. 8 Speculative housing. 9 Shop refit. 10 A prestigious commercial development.

**www.wileyeurope.com/college/cooke**

**9781405191395 • 280pp • September 2009**
**Pbk • £25.99/€29.90**




## Managing Construction Projects

2nd Edition

**GRAHAM M. WINCH, Manchester Business School, University of Manchester.**

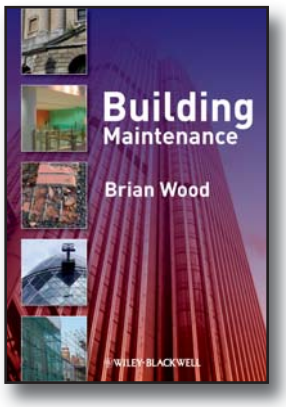
This book is a unique, well written study of construction project management, focussing on information management and its impact upon project management.

This second edition develops the information processing perspective introduced in the first as a distinctive contribution to the available perspectives on managing construction projects. In particular, the approach deepens understanding of the dynamics of the construction project process from the value proposition inherent in the project mission to the functioning asset realising that value for its owners and users.

**Contents:** Part I Introduction. 1 The Management of Construction Projects. 2 The Context of Construction Project Management. Part II Defining the Project Mission. 3 Deciding What the Client Wants. 4 Managing Stakeholders. Part III Mobilising the Resource Base. 5 Forming the Project Coalition. 6 Motivating the Project Coalition. 7 Managing the Dynamics of the Supply Chain. Part IV Riding the Project Life Cycle. 8 Minimising Client Surprise. 9 Defining Problems and Generating Solutions. 10 Managing the Budget. 11 Managing the Schedule. 12 Managing Conformance. 13 Managing Uncertainty and Risk on the Project. 14 Managing the Project Information Flow. Part V Leading the Project Coalition. 15 Designing Effective Project Organisations. 16 Infusing the Project Mission. 17 Conclusions: Managing Construction Projects Consummately.

**www.wileyeurope.com/college/winch**

**9781405184571 • 552pp • December 2009 Pbk • £39.99/€46.00**




## Building Maintenance

**BRIAN WOOD, Senior Lecturer, Department of Real Estate and Construction Management, Oxford Brookes University.**

This book will help practitioners and students to achieve a professional approach to building maintenance.

***Building Maintenance*** is a core text on the technical aspects of maintenance for undergraduate built environment courses, particularly building surveying and facilities management. It addresses the who, what, where, when, how and why of maintenance activities and shows that maintenance should be considered seriously at the design stage.

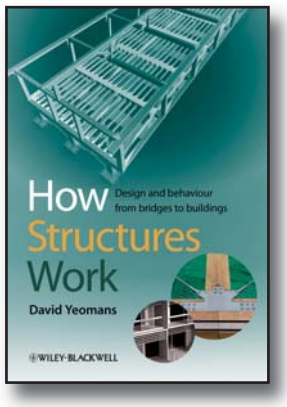
**Features:**

- Using extensive case studies and checklists, this book illustrates what can go wrong, how to put matters right and how to get it right first time.

**Contents:** 1 Introduction. 2 Design temptations. 3 Maintenance planning. 4 The client. 5 Expectations. 6 Day-to-day prioritisation. 7 Deterioration. 8 Building defects and avoidance. 9 Organising maintenance works. 10 Defect recognition and rectification: General. 11 Defect recognition and rectification: Foundations, basements and external works. 12 Defect recognition and rectification: External walls, doors and windows. 13 Defect recognition and rectification: Chimneys, roofs and roof spaces, rainwater disposal. 14 Defect recognition and rectification: Floors, stairs and internal walls. 15 Defect recognition and rectification: Building services. 16 Upgrading and improvement. 17 The rehabilitation process. 18 New life in the building.

**www.wileyeurope.com/college/wood**

**9781405179676 • 328pp • September 2009 Pbk • £29.99/€34.50**




## How Structures Work: Design and Behaviour from Bridges to Buildings

**DAVID YEOMANS, formerly University of Liverpool.**

This new title explains the behaviour of structures in a clear way without resorting to complex mathematics.

***How Structures Work*** was written to explain the behaviour of structures in a clear way without resorting to complex mathematics. It is aimed at students who require a good qualitative understanding of structures and their behaviour, and as such will be of interest to students of architecture, as well as architectural historians and conservationists.

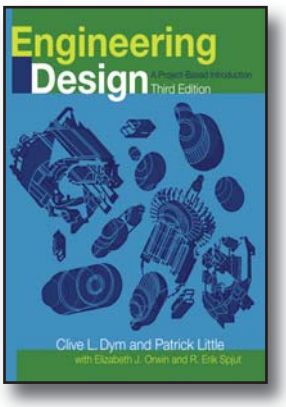
**Features:**

- This book uses many real-life historical and contemporary examples to build up a general understanding of structures.
- Illustrated with many line drawings to ensure the concepts are easily assimilated.
- Particularly suitable for architecture students and those civil engineering students who have difficulty with the traditional mathematical approach.

**Contents:** 1 Introduction. 2 Brackets and bridges. 3 Arches and Suspension Bridges. 4 Bringing the Loads to the Ground – The Structural Scheme. 5 Safe as Houses? – Walls. 6 Frames – A Problem of Stability. 7 Floors and Beams – Deflections and Bending Moments. 8 Providing Shelter – Roofs. 9 Structures in a Three-dimensional World.

**www.wileyeurope.com/college/yeomans**

**9781405190176 • 264pp • July 2009 • Pbk £29.99/€34.50**




## Engineering Design: A Project Based Introduction

3rd Edition

**CLIVE L. DYM, Harvey Mudd College, California**
**PATRICK LITTLE.**

A comprehensive introduction to conceptual design methods and project management tools.

Dym and Little's successful team-based approach to engineering design gets students actively involved with conceptual design methods and project management tools. The new 3rd edition takes a practical approach to using models in the real world.

**Features:**

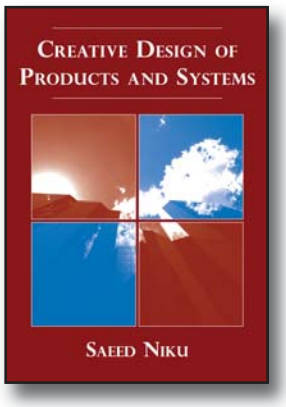
- There is an emphasis on ethics as an everyday issue, with current examples.
- Introduces basic engineering into design.
- Consistent, common examples throughout illustrate the use of both the design tools and the management tools necessary for the design and development of successful projects.

**Contents:** 1 Engineering Design. 2 The Design Process. 3 Defining the Clients Design Problem. 4 Functions and Requirements. 5 Generating and Evaluating Design Alternatives. 6 Design Modeling, Analysis and Optimization. 7 Communicating the Design Outcome (I): Building Models and Prototypes. 8 Communicating the Design Outcome (II): Engineering Drawings. 9 Communicating the Design Outcome (III): Oral and Written Reports. 10 Leading and Managing the Design Process. 11 Designing for… 12 Ethics in Design.

**Supplements:** PowerPoint, Instructors Manual.

**www.wileyeurope.com/college/dym**

**9780470225967 • 352pp • 2008 • Pbk**
**Adoption price available on request**




## Creative Design of Products and Systems

**SAEED NIKU, California Polytechnic State University.**

An exciting new title integrating all aspects of design into one volume.

Niku presents a cross-disciplinary approach to engineering design with a strong emphasis on creative thinking and problem-solving. By presenting a comprehensive, systematic approach, the text teaches the designer to understand the consequences of design decisions throughout the entire process.

**Features:**

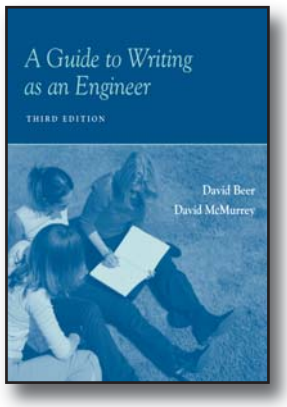
- The book covers creativity and the role of mental barriers in detail, demonstrated through puzzles, with many exercises and examples.
- Explores *Quality Function Deployment, Pugh matrix,* and other related issues through mechanical, electrical, and architectural examples.
- In-chapter creative problem solving excercises.

**Contents:** 1 Creative Product and System Design. 2 Creative Mind. 3 Reclaiming Your Creativity. 4 Creative Problem Solving Techniques. 5 The Design Process. 6 Imagination, Visualization, Graphical Representations and Communication. 7 Design Considerations, Decisions, and Consequences. 8 Human Factors in Design. 9 Aesthetics of Design. 10 Material Properties, Selection, and Processing. 11 Economics of Design. 12 Quality in Design. 13 Design and Product Liability. 14 Intellectual Property Protection. 15 Entrepreneurship and Innovation. 16 Design Analysis of Machine Components.

**Supplements:** Solutions Manual.

**www.wileyeurope.com/college/niku**

**9780470148501 • 608pp • 2008 • Hbk**
**£50.99/€58.70**




## A Guide to Writing as an Engineer

3rd Edition

**DAVID F. BEER, University of Texas**
**AUSTIN D. McMURREY, IBM Corporation.**

Discover how to become a technical writing expert with this brief, easy-to-read guide.

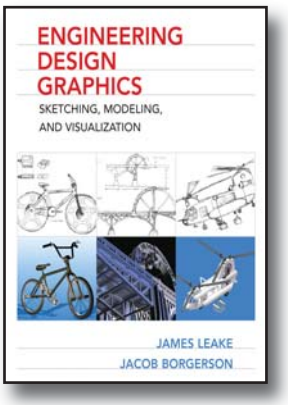
This new title takes an "engineering approach" to technical communication that features practical examples and situations from today's industry.

**Features:**

- Introducing the concept of noise in communication rather than focusing on errors and poor writing.
- Examples from real engineering writing focus on the engineering discipline.
- Coverage of ethics, Engineering Codes of Ethics are introduced (IEEE and ABET).

**www.wileyeurope.com/college/beer**

**9780470417010 • 300pp • March 2009 • Pbk**
**Adoption price available on request**




## Engineering Design Graphics: Sketching, Modeling, and Visualization

1st Edition

**JAMES LEAKE, University of Illinois, JACOB BORGERSON.**

Engineers finally have an accessible resource that will enable them to create detailed engineering graphics.

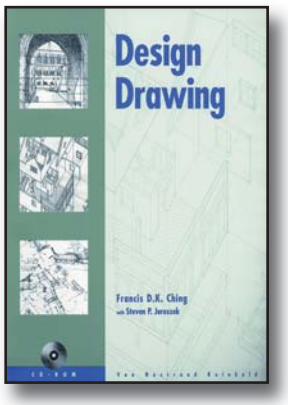
***Engineering Design Graphics*** provides a clear, concise treatment of the essential topics addressed in a modern engineering design graphics course. Projection theory provides the instructional framework, and freehand sketching the means for learning the important graphical concepts at the core of this work. The text includes several hundred sketching problems, all serving to develop the student's ability to use sketching for ideation and communication, as well as a means to develop critical spatial visualization skills. A chapter on computer-aided product design software, with an emphasis on parametric solid modeling, is also included.

**Contents:** 1 Engineering Design. 2 Sketching and Other Concepts 3 Planar Projections & Pictorial Views. 4 Multiviews. 5 Auxiliary and Section Views. 6 Dimensioning and Tolerancing. 7 Computer-Aided Product Design Software. 8 Working Drawings. 9 Product Dissection, Reverse Engineering and Redesign. Appendix A Perspective Projections & Sketches. B Geometric Dimensioning and Tolerancing.

**Supplements:** Solutions Manual, PowerPoint slides.

**www.wileyeurope.com/college/leake**

**9780471762683 • 352pp • 2008 • Pbk**
**£40.99/€47.20**




## Design Drawing

**FRANCIS D. K. CHING**

Intended for use with the book or as a stand-alone product, the supplemental CD-ROM includes 25 interactive lessons which demonstrate concepts and techniques in a way that a 2-D book format cannot.

**Contents:** DRAWING FROM OBSERVATION; Line and Shape; Tone and Texture; Form and Structure; Space and Depth; DRAWING SYSTEMS; Pictorial Systems; Multiview Drawings; Paraline Drawings; Perspective Drawings; DRAWING FROM THE IMAGINATION; Speculative Drawing; Diagramming; Drawing Composition; Presentation Drawing.

**www.wileyeurope.com/college/ching**

**9780471286547 • 352pp • 1997 • Pbk**
**£33.99/€45.80**

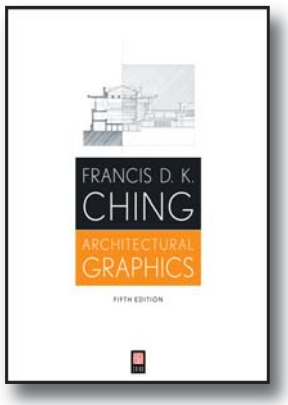
## A Visual Dictionary of Architecture

**FRANCIS D. K. CHING**

This book defines over 5,000 terms relating to architectural design, history, and technology. It is the only dictionary that provides concise, accurate definitions illustrated with finely detailed, hand-rendered drawings, each executed in Mr. Ching's signature style.

**www.wileyeurope.com/college/ching**

**9780471288213 • 320pp • 1997 • Pbk**
**£31.99/€35.70**




## Architectural Graphics

5th Edition

**FRANCIS D. K. CHING**

***Architectural Graphics*** offers the essential drawing tools, principles, and techniques designers use to communicate architectural ideas. In this Fifth Edition, Francis D.K. Ching expands upon the wealth of illustrations and instructions that have made this book a classic, and guides readers through the subtleties of translating architectural ideas into vivid visual representations.

Readers learn Ching's renowned methods through:

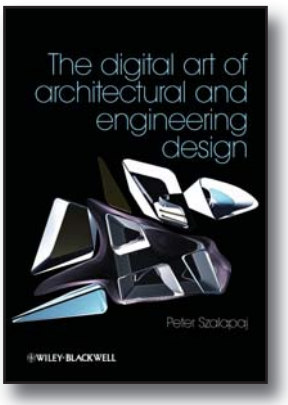
- Coverage of multiview drawings, paraline drawings, and perspective drawings.
- Techniques for drawing section views of building interiors.
- Strategies for rendering tonal value, enhancing pictorial depth, and conveying the illumination of spatial environments.
- Approaches for developing the layout of architectural presentations.
- Freehand sketching and diagramming.
- And much more.

This beautiful Fifth Edition of ***Architectural Graphics*** clearly presents the complexity of architectural concepts in an intuitive graphic manner.

**Contents:** Preface. 1 Drawing Tools and Materials. 2 Architectural Drafting. 3 Architectural Drawing Systems. 4 Multiview Drawings. 5 Paraline Drawings. 6 Perspective Drawings. 7 Rendering Tonal Values. 8 Rendering Context. 9 Architectural Presentations. 10 Freehand Drawing. Index.

**www.wileyeurope.com/college/ching**

**9780470399118 • 256pp • December 2009**
**Pbk • £30.99/€37.50**




## The Digital Art of Architectural and Engineering Design

**PETER SZALAPAJ, Sheffield University.**

Valuable resource for students and design professionals that identifies digital solutions to specific design problems.

This book provides a resource for students and professionals interested in digital solutions to specific design issues.
The author describes in detail the digital processes needed to construct complete buildings, and explains the digital applications needed for design and construction.

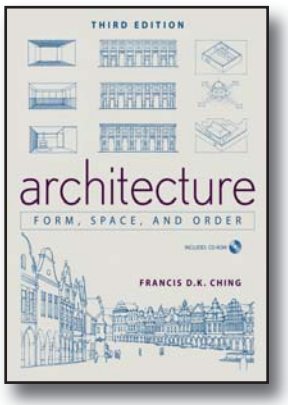
**Features:**

- The author presents a balanced approach that illustrates the possibilities of creative expression in digital environments and digital techniques needed to realise such ambitions.
- The innovative approaches to design and construction that are discussed will impact on most sectors of the construction industry all over the world in the next few years.
- Case studies are featured with the application of leading-edge digital design techniques written in jargon-free style, without commitment to specific software or commands.

**Contents:** 1 Introduction. 2 Sketch Design. 3 Site Analysis. 4 Environmental Factors. 5 Structural Forces. 6 Material Properties. 7 Masonry Structures. 8 Wood Structures. 9 Steel Structures. 10 Concrete Structures. 11 Fabric Structures. 12 Component Fabrication. 13 Building Construction. 14 Building Maintenance.

**www.wileyeurope.com/college/szalapaj**

**9781405156974 • 288pp • December 2010**
**Pbk • £29.99/€34.50**




## Architecture

Form, Space and Order

3rd Edition

**FRANCIS D. K. CHING.**

Using his trademark meticulous drawing, Ching shows the way fundamental elements of architecture through the ages and across cultural boundaries are similar. By looking at these seminal ideas, ***Architecture: Form, Space and Orde***r encourages the reader to critically look at the built environment and promotes a more evocative understanding of architecture. Included in this new edition is a companion CD-ROM that brings to life architectural concepts using three-dimensional models and animations, created by Professor Ching.

**Contents:** 1 Primary Elements. 2 Form. 3 Form & Space. 4 Organization. 5 Circulation. 6 Proportion & Scale. 7 Principles. A Selected Bibliography. Glossary. Index.

**www.wileyeurope.com/college/ching**

**9780471752165 • 448pp • 2007 • Pbk**
**£27.99/€37.50**

## Interior Design Illustrated

2nd Edition

**FRANCIS D. K. CHING**
**CORKY BINGGELI, Corky Binggeli Interior Design, Boston, Massachusetts.**

**Contents:** Preface; 1. Interior Space; 2. Interior Design; 3. A Design Vocabulary; 4. Interior Building Elements; 5. Interior Environmental Systems; 6. Lighting and Acoustics; 7. Finish Materials; 8. Furnishings; Bibliography; Index.

**www.wileyeurope.com/college/ching**

**9780471473763 • 336pp • 2005 • Pbk**
**£28.99/€32.20**


## New Directions in Contemporary Architecture

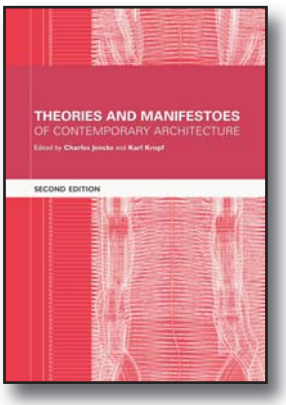
Evolutions and Revolutions in Building Design Since 1988

**LUIGI PUGLISI, University of Rome La Sapienza.**

- A must-have read for students and general readers who want to get up to speed with current trends in architecture and architectural culture.
- Produced in a highly appealing accessible magazine format, which encourages readers to dip in.
- Features over 200 colour illustrations of contemporary buildings.

**www.wileyeurope.com/college/puglisi**

**9780470518908 • 224pp • 2008 • Pbk**
**£19.99/€23.00**




## Theories and Manifestations of Contemporary Architecture

2nd Edition

**CHARLES JENCKS**
**KARL KROPF, both of Roger Evans Associates Ltd, UK.**

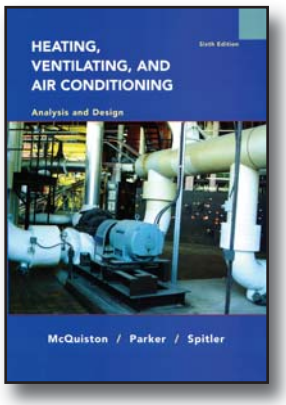
**Features:**

- Highly informative, this volume is a vital learning and teaching tool for all those interested in the philosophies of contemporary architecture.
- Essential for the student and practitioner alike, the second anthology will present over 150 of the key arguments of today's major architectural philosophers and gurus.

**Contents:** 1. 1977, Mandelbrot; 2. 1992, Raggatt; 3. 1997, Batty and Langley; 4. 1999, van Berkel and Bos; 5. 1999, MVRDV; 6. 1999, Somol; 7. 1999, Lynn; 8. 2000, West 8; 9. 2001, Spuybroek; 10. 2001, Lootsma; 11. 2001, Libeskind; 12. 2002, FOA also a text from 2000 on enclosed disc Instrumentality and Diagrams; 13. 2002, Sassen; 14. 2002, Balmond; 15. 2002, SHoP; 16. 2003, Allen and Corner; 17. 2004, Koolhaas; 18. 2004, Weinstock; 19. 2004, Jencks (disc); 20. 2004, Steve Johnson; 21. 2005, Eisenman (disc).

**www.wileyeurope.com/college/jencks**

**9780470014691 • 276pp • 2005 • Pbk**
**£27.99/€32.20**




## Heating, Ventilating and Air Conditioning

Analysis and Design

6th Edition

**FAYE C. McQUISTON, Oklahoma State University, JERALD D. PARKER, Oklahoma Christian University of Science and Arts, JEFFREY D. SPITLER, Oklahoma State University.**

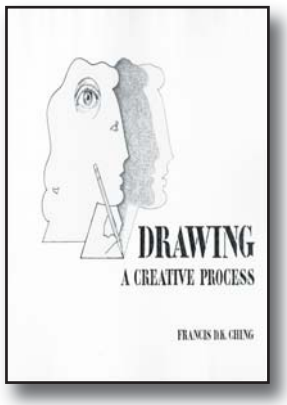
**New to This Edition:**

- Additional new worked examples are provided on CD, some of which are interactive and enable students to load examples into the provided computer programs to run different scenarios when calculating heating/cooling loads.
- Chapter 7, Solar Radiation, has been simplified for easier comprehension and to match ASHRAE approach.
- Chapter 8, The Cooling Load, includes two approaches: the heat balance method, as recommended by ASHRAE, and the simpler RTS method. Both approaches include computer applications to aid in calculations.

**Contents:** 1. Introduction; 2. Air-conditioning Systems; 3. Moist Air Properties and Conditioning Processes; 4. Indoor Air Quality – Comfort and Health; 5. Heat Transmission in Building Structures; 6. Space Heat Load; 7. Solar Radiation; 8. The Cooling Load; 9. Energy Calculations; 10. Flow, Pumps, and Piping Design; 11. Space Air Diffusion; 12. Fans and Building Air Distribution; 13. Direct Contact Heat and Mass Transfer; 14. Extended Surface Heat Exchangers; 15. Refrigeration; Appendix A: Thermodynamic Properties; Appendix B: Thermophysical Properties; Appendix C: Weather Data; Appendix D: Pipe and Tube Data; Appendix E: Conversion Factors; Appendix F: Symbols; Appendix G: Charts; Index.

**www.wileyeurope.com/college/mcquiston**

**9780471470151 • 623pp • 2004 • Hbk**
**£47.99/€55.20**




## Drawing

A Creative Process

**FRANCIS D. K. CHING.**

**Contents:** Drawing: Process and Product. Line: The Essence of Drawing. Shape: The Definition of Form. Depth: The Art of Illusion. Envisioning: Drawing From Imagination. Speculation: Drawing and Creativity. Bibliography. Index.

**www.wileyeurope.com/college/ching**

**9780471289685 • 208pp • 1989 • Pbk**
**£28.99/€37.50**

## The Elements of Color

**JOHANNES ITTEN.**

**Contents:** Color Physics. Color Agent and Color Effect. Concord of Colors. Subjective Timbre. Theory of Color Design. The Twelve-Part Color Circle. The Seven Color Contrasts:Hue, Light-Dark, Cold-Warm, Complementary, Simultaneous, Saturation. Extension. Color Mixing. The Color Sphere. Color Harmony. Form and Color. Spatial Effect of Colors. Theory of Color Impression. Theory of Color Expression. Composition. Postscript.

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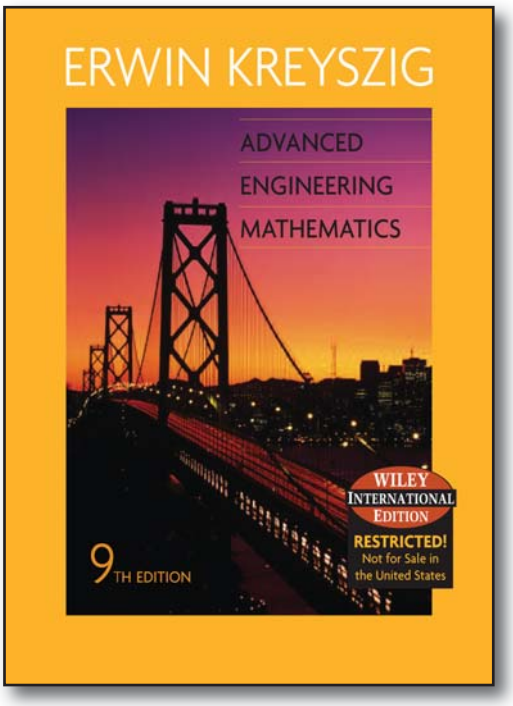


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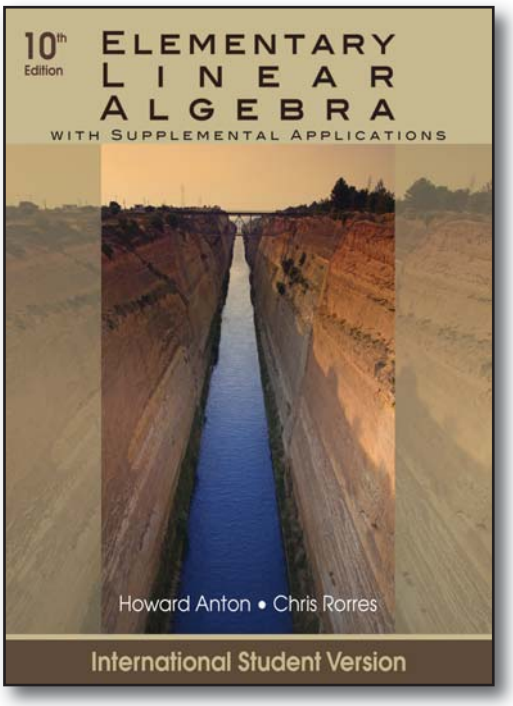


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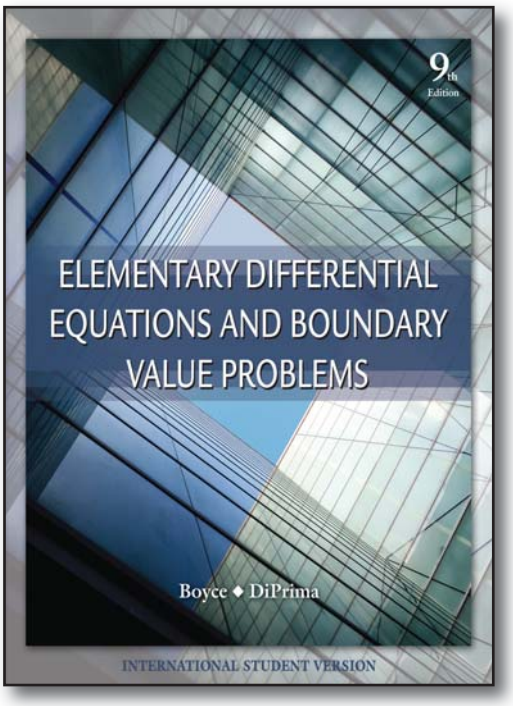
Appendix A How To Read Theorems.
Appendix B Complex Numbers.

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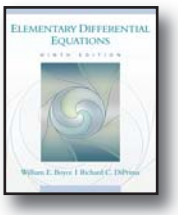


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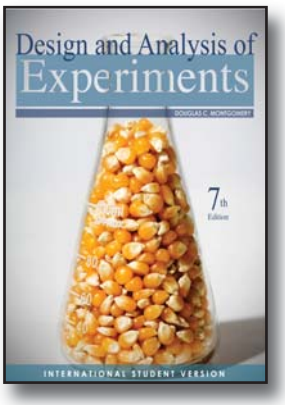


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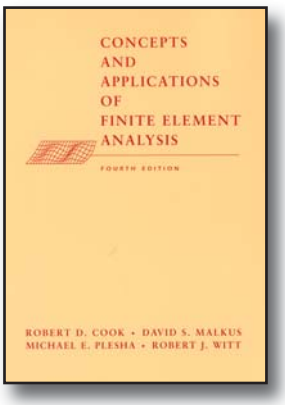


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**MICHAEL E. PLESHA**
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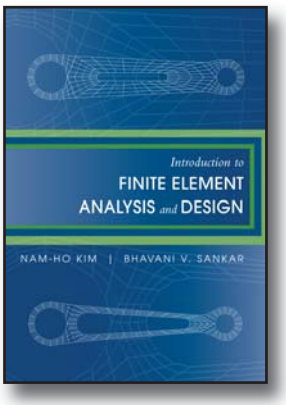


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**9780470125397 • 432pp • 2008 • Pbk**
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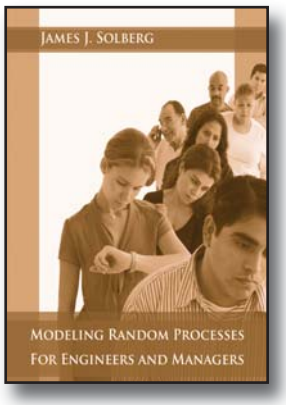


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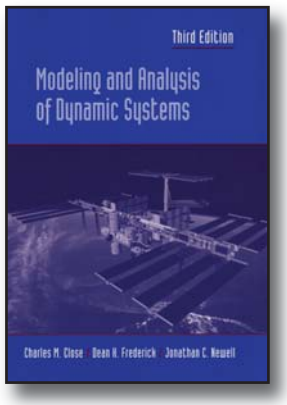


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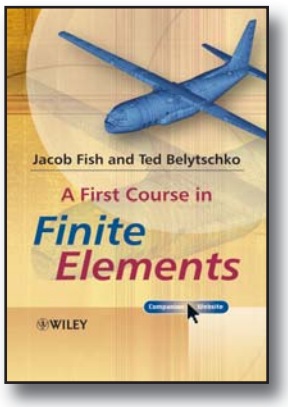


## A First Course in Finite Elements

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**Features:**

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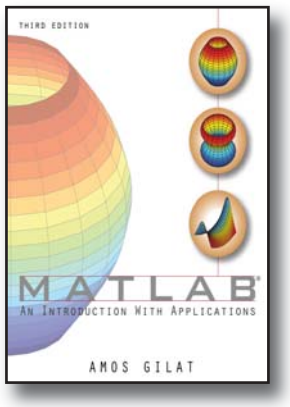


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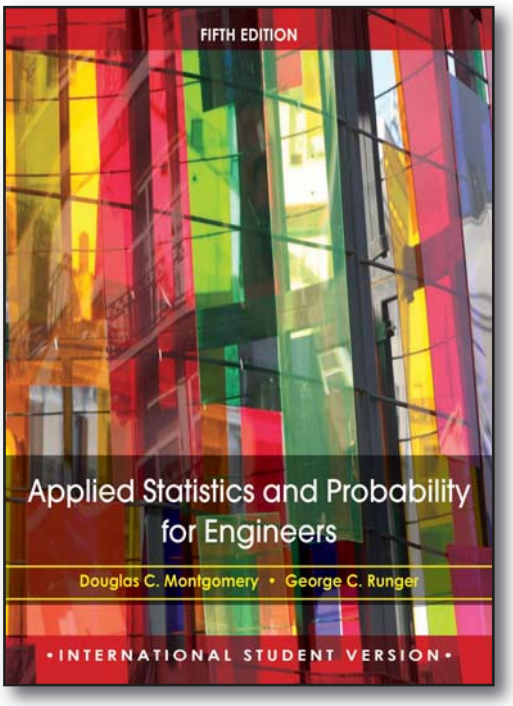


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4. Continuous Random Variables and Probability Distributions.
5. Joint Probability Distributions.
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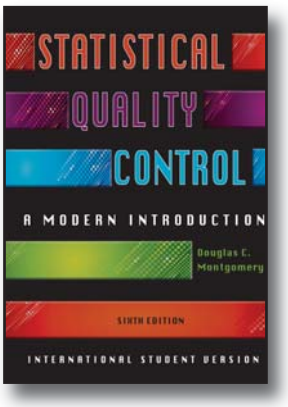
7. Point Estimation of Parameters.
8. Statistical Intervals for a Single Sample.
9. Tests of Hypotheses for a Single Sample.
10. Statistical Inference for Two Samples.
11. Simple Linear Regression and Correlation.
12. Multiple Linear Regression.
13. Design and Analysis of Single-Factor Experiments: The Analysis of Variance.
14. Design of Experiments with Several Factors.
15. Nonparametric Statistics.
16. Statistical Quality Control.

Appendix A. Statistical Tables and Charts.
Appendix B. Answers to Selected Exercises.
Appendix C. Bibliography.
Glossary.
Index.
Problem Solutions.

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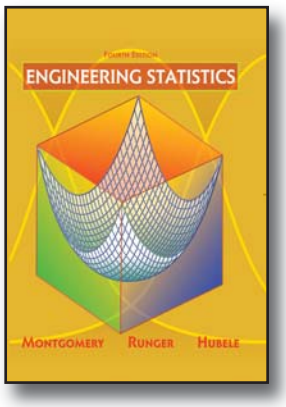


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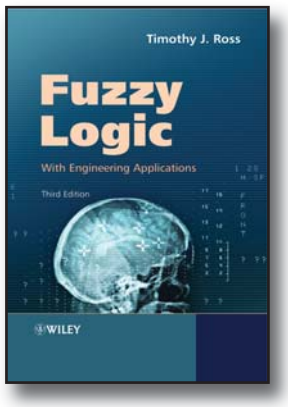


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- Includes abundant new illustrations and examples using MATLAB code constituting an invaluable tool for students as well as for self-study by practicing engineers.
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**Contents:** About the Author. 1 Introduction. 2 Classical Sets and Fuzzy Sets. 3 Classical Relations and Fuzzy Relations. 4 Properties of Membership Functions, Fuzzification, and Defuzzification. 5 Logic and Fuzzy Systems. 6 Development of Membership Functions. 7 Automated Methods for Fuzzy Systems. 8 Fuzzy Systems Simulation. 9 Decision Making with Fuzzy Information. 10 Fuzzy Classification. 11 Fuzzy Pattern Recognition. 12 Fuzzy Arithmetic and the Extension Principle. 13 Fuzzy Control Systems. 14 Miscellaneous Topics. 15 Monotone Measures: Belief, Plausibility, Probability,and Possibility. Index.

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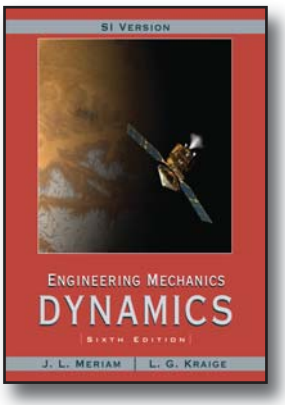


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## Engineering Mechanics: Dynamics

SI Units, 6th Edition

**J.L. MERIAM, University of California, Santa Barbara**
**L.G. KRAIGE, Virginia Polytechnic Institute and State University.**

The new sixth edition continues this tradition while also improving the accessibility of the material. The explanations of concepts are now easier to understand and more worked examples have been incorporated throughout the pages.

- Provides a wide variety of high quality problems that are known for their accuracy, realism, applications, and variety.
- Approximately 40% of the homework problems are new or revised. Includes more problems that produce forces as functions of time, and problems that integrate to project trajectories for particles and rigid bodies.
- Content revisions to meet course needs include:
  - More complete diagrams for impulse-momentum problems – sections 3/C and 6/C in text.
  - Additional discussion of General Equations of Motion in Plane Kinetics of Rigid Bodies.
  - New discussion of establishing coordinate systems as part of problem- solving – see ch 1.

**Contents:** Introduction to Dynamics. Kinematics of Particles. Kinetics of Particles. Kinetics of Systems of Particles. Plane Kinematics of Rigid Bodies. Plane Kinetics of Rigid Bodies. Introduction to Three-Dimensional Dynamics of Rigid Bodies. Vibration and Time Response. Appendix A: Area Moments of Inertia Appendix B: Mass Moments of Inertia Appendix C: Selected Topics of Mathematics D: Useful Tables Index.

**Resources:** WileyPLUS – an online course management system including the full online text and integrated resources.

**www.wileyeurope.com/college/meriam**

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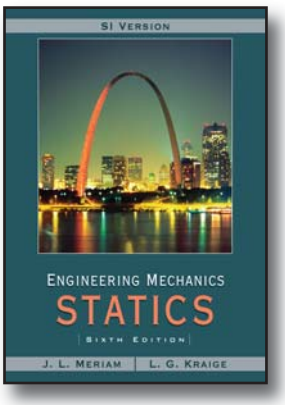



9780471787020 • 528pp • 2008
Pbk • £43.99/€50.60

## Engineering Mechanics: Statics

SI Units, 6th Edition

**J.L. MERIAM, University of California, Santa Barbara**
**L.G. KRAIGE, Virginia Polytechnic Institute and State University.**

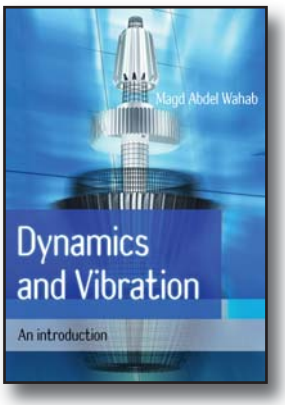
Meriam and Kraige teach students the appropriate techniques and then apply them consistently in solutions of mechanics problems.

- Since 1952 this text has been a primary source for accuracy, rigor, clarity and a high standard of illustration in the coverage of mechanics theory.
- Provides a wide variety of high quality problems that are known for their accuracy, realism, applications, and variety.
- Computer-Oriented Problems are marked with an icon and appear in the end-of-chapter Review Problems.

**Contents:** Introduction to Statics. Force Systems. Equilibrium. Structures. Distributed Forces. Friction. Virtual Work. Appendix A: Area Moments of Inertia. B: Summary of Mass Moments of Inertia. C: Selected Topics of Mathematics. D: Useful Tables.

**Resources:** WileyPLUS – an online course management system including the full online text and integrated resources.

**www.wileyeurope.com/college/meriam**




9780470723005 • 288pp • 2008
Pbk • £29.99/€34.50

## Dynamics and Vibration

An Introduction

**MAGD ABDEL WAHAB, University of Surrey.**

This book presents a new teaching methodology in dynamics using E-learning, simulations and animation of mechanisms and mechanical vibrating systems.

The simulations are fully interactive so that any change in the input parameters is immediately reflected in the animation, output plots and output parameters.

- Uses LabView, a popular programme in today's industry.
- Simulations that help students to visualise motion of mechanisms and vibrating systems (this is a unique feature of the book.)
- Concise, simple, easy to understand at undergraduate level.
- Structured in an easy way for lecturers to adopt the course; e.g. Theory, followed by examples, followed by tutorials, a separate chapter for additional questions, answers to tutorials questions for tutors and a separate chapter for simulations.

**Contents:** PART I: DYNAMICS: Kinematics of Particles; Kinematics of Rigid Bodies; Kinetics of Particles; Kinetics of Rigid Bodies; Balancing of Machines; PART II: VIBRATION: Free Vibration of a Single Degree of Freedom System; Forced Vibration of a Single Degree Of Freedom System; Systems with Two Degrees of Freedom; Vibration of Continuous Systems.

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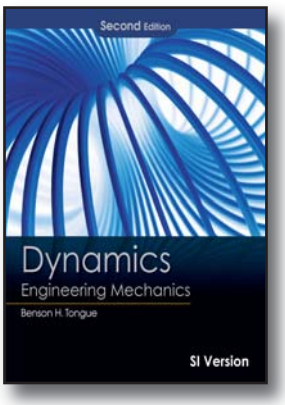



9780470553046 • 550pp
February 2010 • Pbk
£47.99/€55.20

## Dynamics: Engineering Mechanics

WILEY PLUS

SI Version, 2nd Edition

**BENSON H. TONGUE, University of California, Berkeley**
**SHERI D. SHEPPARD, Stanford University.**

The second edition provides a conceptual understanding of how statistics is applied in the field.

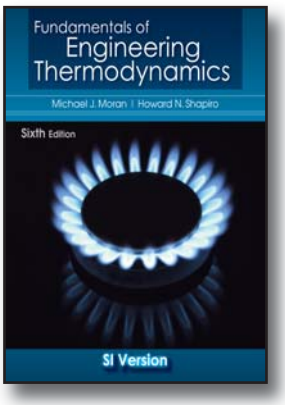
The new edition builds on readers problem-solving skills with new problems with a wider variety of difficulty levels and applications have been added. This text has been written with the student explicitly in mind. Engineers will benefit from the numerous new worked problems, algorithmic problems, and multi-part GO problems.

**Features:**

- New "Check This Out" navigational elements within chapters to direct students to relevant examples of key concepts.
- Updated "Just the Facts" chapter summaries with key concept highlights and important equations for improved student understanding.
- Emphasis on sketching: The importance of communicating solutions through graphics is continuously emphasized with a focus on drawing correct free body diagrams and inertial response diagrams.

**Contents:** 1 Background and Roadmap. 2 Motion of Translating Bodies. 3 Inertial Response of Translating Bodies. 4 Energetics of Translating Bodies. 5 Multi-Body Systems. 6 Kinematics of Rigid Bodies Undergoing Planar Motion. 7 Kinetics of Rigid Bodies Undergoing Two-Dimensional Motion. 8 Kinematics and Kinetics of Rigid Bodies in Three-Dimensional Motion. 9 Vibratory Motions.

**www.wileyeurope.com/college/tongue**




9780470540190 • 744pp
September 2009 • Pbk
£44.99/€51.80

## Fundamentals of Thermodynamics

SI 6th Edition

**MICHAEL J. MORAN, The Ohio State University**
**HOWARD N. SHAPIRO, Iowa State University of Science and Technology.**

### A comprehensive treatment of engineering thermodynamics.

In the new sixth edition, readers will learn how to solve thermodynamics problems with the help of a structured methodology, examples and challenging problems. The book's sound problem-solving approach introduces them to concepts, which are then applied to relevant engineering-based situations.

**Features:**

- SI units throughout.
- The material is presented in an engaging style that includes over 200 worked examples, over 1,700 end-of-chapter problems, and numerous illustrations and graphs.
- Clear, concise presentation of thermodynamics content whereby students develop a strong understanding of core material.
- All worked examples follow a consistent problem-solving procedure to help students define the appropriate system, make necessary assumptions, and set up and solve the problem.

**Contents:** 1. Getting Started: Introductory Concepts and Definitions. 2. Energy and the First Law of Thermodynamics. 3. Evaluating Properties. 4. Control Volume Analysis Using Energy. 5. The Second Law of Thermodynamics. 6. Using Entropy. 7. Exergy Analysis. 8. Vapor Power Systems. 9. Gas Power Systems. 10. Refrigeration and Heat Pump Systems. 11. Thermodynamic Relations. 12. Ideal Gas Mixture and Psychrometric Applications. 13. Reacting Mixtures and Combustion. 14. Chemical and Phase Equilibrium. Answers to Selected Problems. Index.

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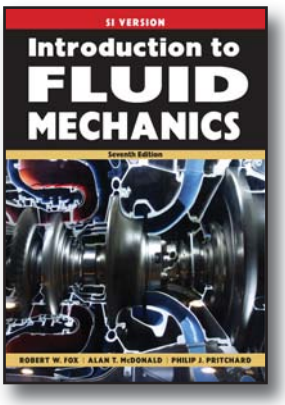



9780470234501 • 768pp • 2008
Pbk • £41.95/€48.30

## Introduction to Fluid Mechanics

SI Version, 7th Edition

**ROBERT W. FOX, Purdue University**
**ALAN T. McDONALD, Purdue University**
**PHILIP J. PRITCHARD, Manhattan College.**

### Discover how to apply the concepts of fluid mechanics to solve real-world problems. Now in SI units throughout!

Fox and Pritchard provide a balanced and comprehensive approach to fluid mechanics that equips students with a proven problem-solving methodology. The text includes a current case study at the end of each chapter to show students how the study of fluid mechanics is practical and relevant. Students can analyze much more complicated scenarios, and become more confident in their problem-solving ability.

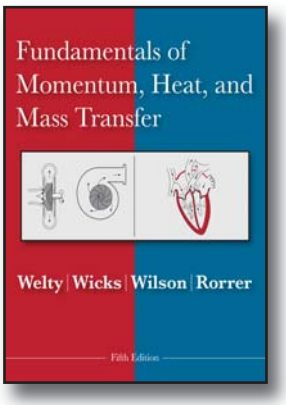
**Features:**

- SI units fully integrated throughout!
- Over 100 detailed example problems illustrate important fluid mechanics concepts.
- 1,200 chapter problems of different levels that help lecturers when creating work and will allow the student to become more confident.
- 25% of the 1300 problems are new a revised.
- Incorporates problem-solving techniques that allow students to see the advantages of using a systematic procedure using excel.

**Contents:** 1 Introduction. 2 Fundamental Concepts. 3 Fluid Statics. 4 Basic Equations in Integral Form for a Control Volume. 5 Introduction to Differential Analysis of Fluid Motion. 6 Incompressible Inviscid Flow. 7 Dimensional Analysis and Similitude. 8 Internal Incompressible Viscous Flow. 9 External Incompressible Viscous Flow. 10 Open Channel Flow. 11 Fluid Machinery. 12 Introduction to Compressible Flow. 13 Steady Compressible.

**Supplements:** Solutions Manual, Animations, and Interactions.

**www.wileyeurope.com/college/fox**




9780470128688 • 740pp • 2007
Hbk • £48.99/€56.40

## Fundamentals of Momentum, Heat and Mass Transfer

5th Edition

**JAMES WELTY, Oregon State University**
**CHARLES E. WICKS**
**GREGORY L. RORRER**
**ROBERT E. WILSON.**

This classic book has set the standard in the field for more than three decades, providing a consistent, clearly written introduction to transfer processes. Continuing that tradition, the new fifth edition presents a unified treatment of momentum transfer (fluid mechanics), heat transfer and mass transfer. The treatment of the three areas of transport phenomena is done sequentially. The subjects of momentum, heat, and mass transfer are introduced, in that order, and appropriate analysis tools are developed.

**Contents:** Introduction to Momentum Transfer; Fluid Statics; Description of a Fluid in Motion; Conservation of Mass: Control-Volume Approach; Newton's Second Law of Motion: Control-Volume Approach; Conservation of Energy: Control-Volume Approach; Shear Stress in Laminar Flow; Analysis of a Differential Fluid Element in Laminar Flow; Differential Equations of Fluid Flow; Inviscid Fluid Flow; Dimensional Analysis and Similitude; Viscous Flow; Flow in Closed Conduits; Fluid Machinery; Fundamentals of Heat Transfer; Differential Equations of Heat Transfer; Steady-State Conduction; Unsteady-State Conduction; Convective Heat Transfer; Convective Heat-Transfer Correlations; Boiling and Condensation; Heat-Transfer Equipment; Radiation Heat Transfer; Fundmentals of Mass Transfer; Differential Equations of Mass Transfer; Steady-State Molecular Diffusion; Unsteady-State Molecular Diffusion Convective Mass Transfer; Convective Mass Transfer Between Phases; Convective Mass-Transfer Correlations; Mass-Transfer Equipment; A. Transformations of the Operators = and =2 to Cylindrical Coordinates; B. Summary of Differential Vector Operations in Various Coordinate Systems; C. Symmetry of the Stress Tensor; D. The Viscous Contribution to the Normal Stress; E. The Navier-Stokes Equations for Constant b and m in Cartesian, Cylindrical, and Spherical Coordinates; F. Charts for Solution of Unsteady Transport Problems; G. Properties of the Standard Atmosphere; H. Physical Properties of Solids; I. Physical Properties of Gases and Liquids; J. Mass-Transfer Diffusion Coefficients in Binary Systems; K. Lennard-Jones Constants; L. The Error Function; M. Standard Pipe Sizes; N. Standard Tubing. Gages.

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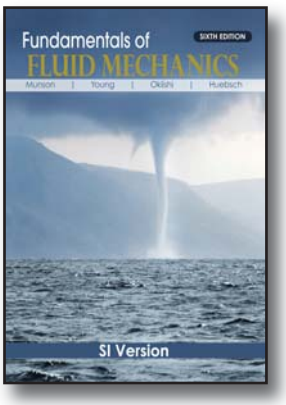


9780470398814 • 748pp
May 2009 • Pbk • £48.99/€56.40

## Fundamentals of Fluid Mechanics

WILEY PLUS

SI Version, 6th Edition

**BRUCE R. MUNSON, DONALD F. YOUNG and THEODORE H. OKIISHI, all of Iowa State University, Ames, WADE W. HUEBSCH, West Virginia University, Morgantown.**

Connect the theory to the physical world with this revised and updated sixth edition. Now in SI Units throughout!

The number one text in the field, ***Fundamentals of Fluid Mechanics, 6/e*** is respected for its comprehensive topical coverage. This book continues its tradition of extensive real-world applications which include fluid mechanics to help generate student interest in the topic.

Continuing this book's tradition of extensive real-world applications, the new edition includes "Fluids in the News" case study boxes in each chapter, a set of brief stories describing interesting, novel, and current applications of fluid mechanics to help generate student interest in the topic. Many new homework problems have been created associated with these stories. Example problems have also been updated to include graphs illustrating the effects of changing parameter values.

**Features:**

- Includes "Fluids in the News" case study boxes in each chapter.
- Visualization – videos, illustrations, and photos. There are 150 video segments, 70 of which are new for this edition.

**Contents:** 1. Introduction. 2 Fluid Statics. 3 Elementary Fluid Dynamics – The Bernoulli Equation. 4 Fluid Kinematics. 5 Finite Control Volume Analysis. 6 Differential Analysis of Fluid Flow. 7 Dimensional Analysis, Similitude, and Modeling. 8 Viscous Flow in Pipes. 9 Flow Over Immersed Bodies. 10 Open-Channel Flow. 11 Compressible Flow. 12 Turbomachines Appendices: Computational Fluid Dynamics and Flowlab. Physical Properties of Fluids. Properties of the U.S. Standard Atmosphere. Compressible Flow Data for an Ideal Gas. Comprehensive Table of Conversion Factors. Additional appendixes are available on the book companion site.

**Supplements:** WileyPLUS includes algorithmic, GO Tutorial and Multi-step problems, and problems designed to evaluate and reinforce conceptual understanding. Includes 150 videos and e-version of textbook.

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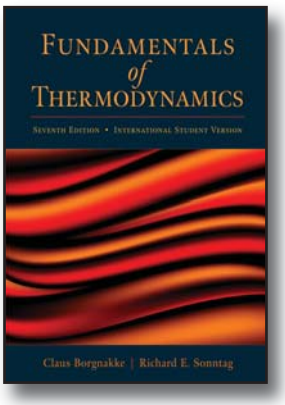


9780470171578 • 816pp • 2008
Pbk • £42.99/€49.50

## Fundamentals of Thermodynamics

SI Version, 7th Edition

**RICHARD E. SONNTAG, University of Michigan**
**CLAUS BORGNAKKE, University of Michigan.**

Gain the foundation to succeed in engineering practice with the most trusted author team in the field. Now in SI Units throughout!

***Fundamentals of Thermodynamics*** seventh edition continues to offer a comprehensive and rigorous treatment of classical thermodynamics, while retaining an engineering perspective.

**Features:**

- SI units are fully incorporated throughout the text!
- End of chapter study summaries and guide questions help students reinforce and apply key concepts and understanding.
- Prepares students for future courses in Fluid Mechanics, Heat Transfer & Statistical Thermodynamics.

**Contents:** 1 Some Introductory Comments. 2 Some Concepts And Definitions. 3 Properties Of A Pure Substance. 4 Work And Heat. 5 The First Law Of Thermodynamics. 6 First-Law Analysis For A Control Volume. 7 The Second Law Of Thermodynamics. 8 Entropy. 9 Second-Law Analysis For A Control Volume. 10 Irreversibility And Availability. 11 Power And Refrigeration Systems with Phase Change. 12 Power And Refrigeration Systemsgaseous Working Fluids. 13 Gas Mixtures. 14 Thermodynamic Relations. 15 Chemical Reactions. 16 Introduction To Phase And Chemical Equilibrium. 17 Compressible Flow. Appendices.

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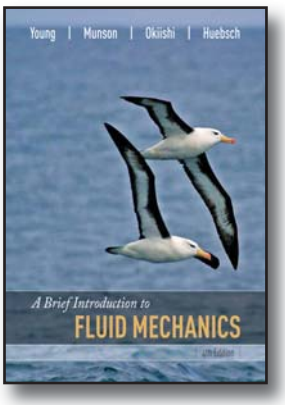



9780470039625 • 560pp • 2007
Pbk • Adoption price available on request

## A Brief Introduction to Fluid Mechanics

WILEY PLUS

4th Edition

**DONALD F. YOUNG**
**BRUCE R. MUNSON**
**THEODORE H. OKIISHI, all of Iowa State University**
**WADE W. HUEBSCH, West Virginia University.**

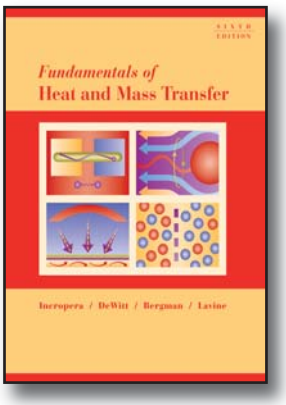
Now readers can quickly learn the basic concepts and principles of modern fluid mechanics with this concise book. It clearly presents basic analysis techniques while also addressing practical concerns and applications, such as pipe flow, open-channel flow, flow measurement, and drag and lift. The fourth edition also integrates detailed diagrams, examples and problems throughout the pages in order to emphasize the practical application of the principles.

- Guides the reader through appropriate engineering problem-solving methodology by including specific steps in example problems.
- Includes new and updated in-chapter examples with graphs that indicate the effect of changing parameter values.
- Provides a CD-ROM with short videos that illustrate various aspects of fluid mechanics.

**Contents:** Introduction; Fluid Statics; Elementary Fluid Dynamics – The Bernoulli Equation; Fluid Kinematics; Finite Control Volume Analysis; Differential Analysis of Fluid Flow; Similitude, Dimensional Analysis, and Modeling; Viscous Flow in Pipes; Flow Over Immersed Bodies; Open-Channel Flow; Turbomachines; Appendices.

**Resources:** WileyPLUS – an online course management system including the full online text and integrated resources.

**www.wileyeurope.com/college/young**




## Fundamentals of Heat and Mass Transfer

6th Edition

**FRANK P. INCROPERA, University of Notre Dame**
**DAVID P. DEWITT, Purdue University.**

This bestselling book in the field provides a complete introduction to the physical origins of heat and mass transfer.

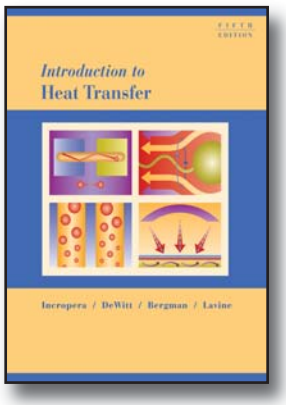
**Features:**

- Covers new applications in bioengineering, fuel cells, and nanotechnology.
- Incorporates 220 new problems to help reinforce key concepts.
- Presents revised and streamlined content, including the removal of more advanced topics.
- Explains how to develop representative models of real processes and systems and draw conclusions concerning process/systems design or performance from the attendant analysis.
- Integrates extensive use of the first law of thermodynamics.

**Contents:** Introduction to Conduction, One-dimensional, Steady-State Conduction, Two-dimensional, Steady-State Conduction, Transient Conduction, Introduction to Convection, External Flow, Internal Flow, Free Convection, Boiling and Condensation, Heat Exchangers, Radiation: Processes and Properties, Radiation Exchange Between Surfaces, Diffusion Mass Transfer.

**www.wileyeurope.com/college/incropera**

**9780471457282 • 960pp • 2006 • Hbk**
**£44.99/€51.80**




## Introduction to Heat Transfer

5th Edition

**FRANK P. INCROPERA, University of Notre Dame**
**DAVID P. DEWITT, Purdue University.**

The de facto standard text for heat transfer – noted for its readability, comprehensiveness and relevancy has been revised to address new application areas of heat transfer while continuing to emphasize the fundamentals.

**New to This Edition:**

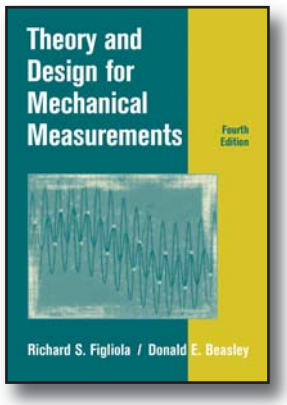
- Adds coverage of areas of recent research in heat transfer, including discussions of the hydrogen economy, electronics cooling, micro-scale heat transfer, and bioheat transfer. New homework problems are included for each area for use in homework or exams.
- Discussion of the First Law of Thermodynamics has been revised to make a closer connection to the undergraduate thermodynamics course.
- Completely updated Interactive Heat Transfer software to assist in modeling, solving, and exploring heat transfer problems.

**Contents:** Introduction to Conduction; One-dimensional, Steady-State Conduction; Two-dimensional, Steady-State Conduction; Transient Conduction; Introduction to Convection; External Flow; Internal Flow; Free Convection; Boiling and Condensation; Heat Exchangers; Radiation: Processes and Properties; Radiation Exchange Between Surfaces.

**Supplements:** Instructor solution manual; PowerPoint lecture slides; Interactive Heat Transfer v3.0 CD/User's Guide.

**www.wileyeurope.com/college/incropera**

**9780471457275 • 880pp • 2006 • Hbk**
**£44.99/€51.80**




## Theory and Design for Mechanical Measurements

4th Edition

**RICHARD S. FIGLIOLA**
**DONALD E. BEASLEY, both of Clemson University.**

***Theory and Design for Mechanical Measurements, 4e*** provides a fundamental treatment for developing, operating, and analyzing measurements systems and for reporting results.

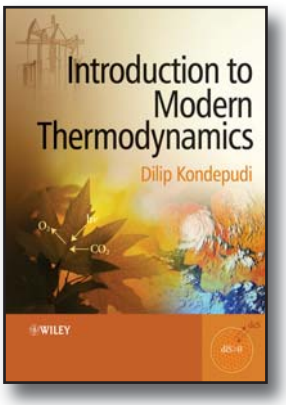
**Features:**

- Sampling Concepts and data acquisition – Provides a rationale for selecting sample rate, sample number with very real examples for ideal and real measurements.
- Mechatronics concepts – ties measurement methods to the closely related methods used in the mechatronics courses.
- Labview Software – Customized to fit the treatment of the text and to illustrate in a self-tutorial many of the advanced concepts.

**Contents:** 1. Basic Concepts of Measurement Methods; 2. Static and Dynamic Characteristics of Signals; 3. Measurement System Behavior; 4. Probability and Statistics; 5. Uncertainty Analysis; 6. Analog Electrical Devices and Managements; 7. Sampling, Digital Devices, and Data Acquisition; 8. Temperature Measurements. 9. Pressure and Velocity Measurements; 10. Flow Measurements; 11. Strain Measurement; 12. Metrology, Motion, Force, and Power Measurements; Appendix A: A Guide for Technical Writing; Appendix B: Property Data and Conversion Factors; Glossary; Index.

**www.wileyeurope.com/college/figliola**

**9780471445937 • 560pp • 2005 • Hbk**
**Adoption price available on request**




## Introduction to Modern Thermodynamics

**DILIP KONDEPUDI, Wake Forest University.**

This is the first modern approach to thermodynamics written specifically for a first undergraduate course. It covers the fundamental formalism with some attention given to its history; describes basic applications, and continues with a number of additional applications that instructors can use according to their particular degree program.

**Contents:** Basic Concepts and the Laws of Gases; The First Law of Thermodynamics; The Second Law of Thermodynamics and the Arrow of Time; Entropy in the Realm of Chemical Reactions; Extremum Principles and General Thermodynamic Relations; Basic Thermodynamics of Gases, Liquids and Solids; Thermodynamics of Phase Change; Thermodynamics of Solutions; Thermodynamics of Chemical Transformations; Fields and Internal Degrees of Freedom; Introduction To Nonequilibrium Systems; Thermodynamics of Radiation; Biological Systems; Thermodynamics of Small Systems; Classical Stability Theory; Critical Phenomena and Configurational Heat Capacity; Elements of Statistical Thermodynamics; List of Variables; Standard Thermodynamic Properties; Physical Constants and Data; Index.

**www.wileyeurope.com/college/kondepudi**

**9780470015995 • 552pp • 2008 • Pbk**
**£34.95/€40.20**


## Fundamentals of Machine Component Design

4th Edition

**ROBERT C. JUVINALL, University of Michigan**
**KURT M. MARSHEK, University of Texas at Austin.**

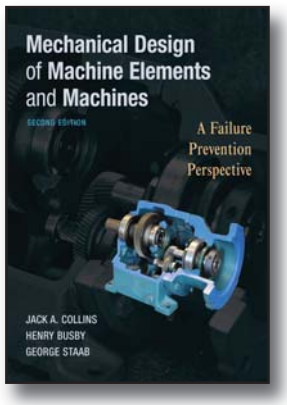
The fourth edition continues to focus on the fundamentals of component design – free body diagrams, force flow concepts, failure theories, and fatigue design, with applications to fasteners, springs, bearings, gears, clutches, and brakes. A proven problem-solving methodology guides you through the process of accurately formulating problems and clearly presenting solutions.

- New appendices on materials subsets and materials uses, including processing methods, joinability, and relations between failure modes and material properties.

**Contents:** PART I: FUNDAMENTALS; 1. Mechanical Engineering Design in Broad in Broad Perspective; 2. Load Analysis. 3. Materials; 4. Static Body Stresses; 5. Elastic Strain, Deflection, and Stability; 6. Failure Theories, Safety Factors, and Reliability; 7. Impact; 8. Fatigue; 9. Surface Damage; PART II: APPLICATIONS; 10. Threaded Fasteners and Power Screws; 11. Rivets, Welding, and Bonding; 12. Springs; 13. Lubrication and Sliding Bearings; 14. Rolling-Element Bearings; 15. Spur Gears; 16. Helical, Bevel, and Worm Gears; 17. Shafts and Associated Parts; 18. Clutches and Brakes; 19. Miscellaneous Components; 20. Machine Component Interrelationships – A Case Study; Appendix A: Units; Appendix B: Properties of Sections and Solids; Appendix C: Material Properties and Uses; Appendix D: Shear, Moment, and Deflection Equations for Beams; Appendix E: Fits and Tolerances; Index.

**www.wileyeurope.com/college/juvinall**

**9780471742852 • 912pp • 2005 • Hbk**
**£48.99/€56.40**




## Mechanical Design of Machine Elements and Machines

2nd Edition

**JACK A. COLLINS, The Ohio State University, HENRY R. BUSBY, The Ohio State University and GEORGE H. STAAB, The Ohio State University.**

Taking a failure prevention perspective, this book provides engineers with a balance between analysis and design. The new edition presents a more thorough treatment of stress analysis and fatigue. It integrates the use of computer tools to provide a more current view of the field.

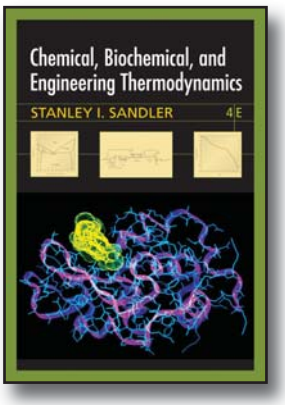
**Features:**

- Photos or images are included next to descriptions of the types and uses of common materials.
- The book has been updated with the most comprehensive coverage of possible failure modes and how to design with each in mind.

**Contents:** 1 Keystones of Design: Materials Selection and Geometry Determination. 2 The Failure Prevention Perspective. 3 Materials Selection. 4 Response of Machine Elements to Loads and Environments; Stress Strain,and Energy Parameters. 5 Failure Theories. 6 Geometry Determination. 7 Design-Stage Integration of Manufacturing and Maintenance Requirements. 8 Power Transmission Shafting; Couplings, Keys, and Splines. 9 Pressurized Cylinders; Interference Fits. 10 Plain Bearings and Lubrication. 11 Rolling Element Bearings. 12 Power Screw Assemblies. 13 Machine Joints and Fastening Methods. 14 Springs. 15 Gears and Systems of Gears. 16 Brakes and Clutches. 17 Belts, Chains, Wire Rope, and Flexible Shafts. 18 Flywheels and High-Speed Rotors. 19 Cranks and Crankshafts. 20 Completing the Machine. Appendices.

**www.wileyeurope.com/college/collins**

**9780470413036 • 890pp • October 2009 • Hbk**
**£49.99/€57.50**

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## Chemical, Biochemical, and Engineering Thermodynamics

SI Version, 4th Edition

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***Chemical, Biochemical, and Engineering Thermodynamics, 4th Edition*** presents a modern, applied approach to chemical thermodynamics and provides sufficient detail to develop a solid understanding of the key principles in the field.

**Features:**

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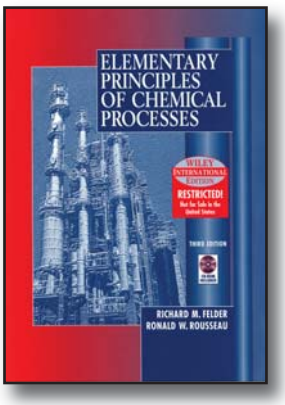


9780471375876 • 704pp • 1999
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## Elementary Principles of Chemical Processes

3rd Edition

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**R.W. ROUSSEAU, Georgia Institute of Technology.**

The text provides a realistic, informative, and positive introduction to the practice of chemical engineering.

**Features:**

- CD-ROM software contains interactive instructional tutorials, an encyclopaedia of chemical process equipment, a physical property data base, a powerful but user friendly algebraic and differential equation-solving program, and other tools to help students study and learn the course material.
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**Contents:** What Some Chemical Engineers Do for a Living; Introduction to Engineering Calculations; Processes and Process Variables; Fundamentals of Material Balances; Single-Phase Systems; Multiphase Systems; Energy and Energy Balances; Balances on Nonreactive Processes; Balances on Reactive Processes; Computer-Aided Balance Calculations; Balances on Transient Processes; Case Study: Production of Chlorinated Poly; Case Study: Synthesis of Methanol from Natural Gas; Case Study: Scrubbing of Sulfur Dioxide from Power Plant Stack Gases; Appendices.

**Supplements:** Instructor's Manual, ICCP (Interaction Chemical Process Principles) – a guide and toolkit for students taking the introductory chemical engineering course.

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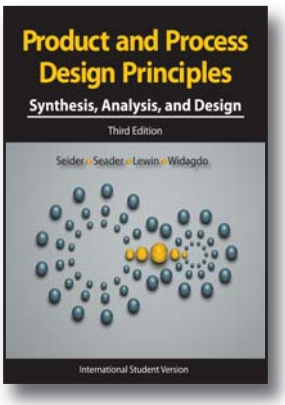


9780470414415 • 786pp
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## Product and Process Design Principles

Synthesis, Analysis and Design

3rd Edition

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A complete package that describes modern strategies for the design of chemical products and processes, with an emphasis on a systematic approach.

This text and accompanying CD present the steps for designing chemical products and processes, beginning with societal needs.

**Features:**

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- Emphasizes the importance of assessing plant-wide controllability.

**Contents:** 1 Introduction to Chemical Product Design. 2 Product-Development Process. 3 Materials Technology for Basic Chemicals: Molecular-Structure Design. 4 Process Creation for Basic Chemicals. 5 Simulation to Assist in Process Creation. 6 Heuristics for Process Synthesis. 7 Reactor Design and Synthesis of Networks Containing Reactors. 8 Synthesis of Separation Trains. 9 Heat and Power Integration. 10 Mass Integration. 11 Optimal Design and Scheduling of Batch Processes. 12 Plantwide Controllability Assessment. 13 Basic Chemicals Product Design Case Studies. 14 Materials and Process/Manufacturing Technologies for Industrial Chemical Products. 15 Industrial Chemicals Product Design Case Studies. 16 Materials, Process/Manufacturing, and Product Technologies for Con€gured Consumer Products. 17 Configured Consumer Product Design Case Studies. 18 Heat Exchanger Design. 19 Separation Tower Design. 20 Pumps, Compressors, and Expanders. 21 Polymer Compounding. 22 Cost Accounting and Capital Cost Estimation. 23 Annual Costs, Earnings, and Profitability Analysis. 24 Design Optimization. 25 Six-Sigma Design Strategies. 26 Written Reports and Oral Presentations. Appendices.

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9780471000778 • 736pp • 2003
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## Process Dynamics and Control

2nd Edition

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**DUNCAN A. MELLICHAMP, both of University of California, Santa Barbara**
**THOMAS F. EDGAR, University of Texas, Austin.**

**Features:**

- This Second Edition utilizes MATLAB and Simulink in exercises and examples in numerous chapters, allowing many complicated calculations to be performed routinely and with greater insight.
- Revised control technology material replaces outdated topics and conveys both analog and digital perspectives of process control, with continuous-time and discrete-time systems considered throughout the text.

**Contents:** PART ONE: INTRODUCTION TO PROCESS CONTROL; Introduction to Process Control; Theoretical Models of Chemical Processes; PART TWO: DYNAMIC BEHAVIOR OF PROCESSES; Laplace Transforms; Transfer Function and State-Space Models; Dynamic Behavior of First-Order and Second-Order Systems; Dynamic Response Characteristics of More Complicated Systems; Development of Empirical Dynamic Models from Process Data; PART THREE: FEEDBACK AND FEEDFORWARD CONTROL; Feedback Controllers; Control System Instrumentation; Overview of Control System Design; Dynamic Behavior and Stability of Closed-Loop Control Systems; PID Controller Design, Tuning, and Troubleshooting; Frequency Response Analysis; Control System Design Based on Frequency Response Analysis; Feedforward and Radio Control; PART FOUR: ADVANCED PROCESS CONTROL; Enhanced Single-Loop Control Strategies; Digital Sampling, Filtering, and Control; Multiloop and Multivariable Control; Real-Time Optimization; Model Predictive Control; Process Monitoring; Batch Process Control; Introduction to Plantwide Control; Plantwide Control Design Procedures; Appendix A: Digital Process Control Systems: Hardware and Software; Appendix B: Review of Thermodynamics Concepts for Conservation Equations; Appendix C: Use of MATLAB in Process Control; Appendix D: Contour Mapping and the Principle of the Argument; Appendix E: Dynamic Models and Parameters Used for Plantwide Control.

**Supplements:** Solutions Manual, PowerPoint Slides.

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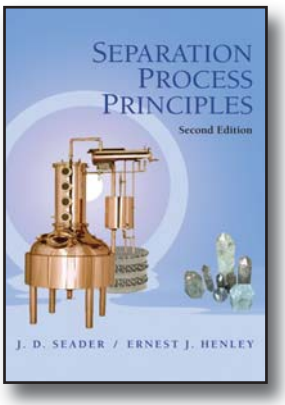


9780471464808 • 920pp • 2006
Hbk • Adoption price available on request

## Separation Process Principles

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**ERNEST J. HENLEY, University of Houston.**

***Separation Process Principles, Second Edition*** presents a unified treatment of rate-based and equilibrium-based approaches to understanding, design, and evaluation of processes involving the separation of chemical mixtures.

Each chapter begins with a statement of instructional objectives and concludes with a summary of topics covered. Included in the 18 chapters are detailed solutions to 214 examples. A total of 649 homework exercises are provided.

**Contents:** Part I: Introductory Concepts; Separation Processes; Thermodynamics of Separation Operations Mass Transfer and Diffusion; Single Equilibrium Stages and Flash Calculations; Cascades; Part II: Separation By Phase Creation or Addition; Absorption and Stripping of Dilute Mixtures; Distillation of Binary mixtures; Liquid-Liquid Extraction with Ternary Systems; Approximate Methods for Multicomponent, Multistage Separations; Equilibrium-Based Methods for Multicomponent Absorption, Distillation and Extraction; Enhanced Distillation and Supercritical Extraction; Rate-Based Models for Distillation; Batch Distillation; Part III: Separation by Barriers and Solid Agents; Membrane Separations; Adsorption, Ion Exchange, and Chromatography.

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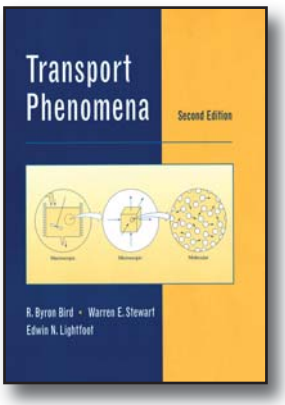


9780470115398 • 920pp • 2001
Hbk • £48.99/€56.40

## Transport Phenomena

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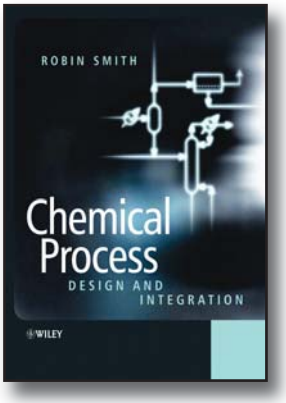


## Chemical Process Design and Integration

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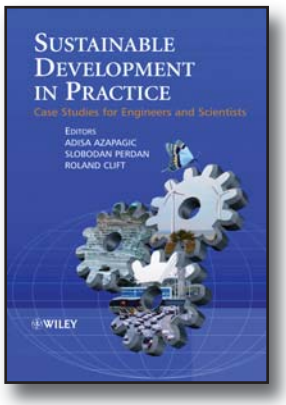
**9780471486817 • 712pp • 2005 • Pbk**
**£45.00/€51.80**




## Sustainable Development in Practice

Case Studies for Engineers and Scientists

**ADISA AZAPAGIC**
**ROLAND CLIFT, both of University of Surrey**
**SLOBODAN PERDAN, previously of University of Surrey.**

**Contents:** Part I Sustainable Development, Engineers and Scientists: Introduction to Sustainable Development (Perdan); The Role of Engineers and Scientists in Sustainable Development (Mitchell, Carew and Clift); Part II Case Studies: Waste Water Treatment: Identifying Sustainable Processes (Azapagic, Duff and Clift); Integrated Prevention and Control of Air Pollution: The Case of Nitrogen Oxides (Azapagic, Duff and Clift); Municipal Solid Waste Management: Can Thermodynamics Influence People's Opinions about Incineration (Kirkby and Azapagic); Process Design for Sustainability: The Case of Vinyl Chloride Monomer (Azapagic, Millington and Collett); Towards Sustainable Chemical Manufacturing: Polylactic Acid – A Sustainable Polymer? (Clark and Hardy); An Industrial Ecology: Material Flows and Engineering Design (Allen); Scenario Building and Uncertainties: Options for Energy Sources (Darton); Fuel cells in Stationary Applications: Energy for the Future? (Pehnt); Towards Sustainable Process Contracting: The Case of the Glass Industry (Nicholas); Multi-Criteria Decision Analysis: The Case of Power Generation in South Africa (Petrie et al); Social and Ethical Dimensions of Sustainable Development: Mining in Kakadu National Park (Perdan); Appendix: Life Cycle Thinking and Life Cycle Assessment (LCA).

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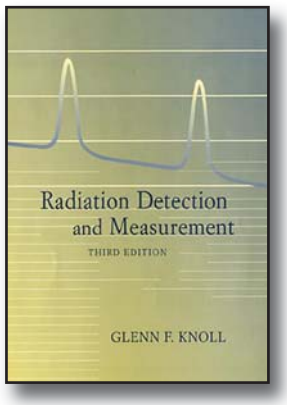


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**Contents:** Radiation Sources; Radiation Interactions; Counting Statistics and Error Prediction; General Properties of Radiation Detectors; Ionization Chambers; Proportional Counters; Geiger-Mueller Counters; Scintillation Detector Principles; Photomultiplier Tubes and Photodiodes; Radiation Spectroscopy with Scintillators; Semiconductors Diode Detectors; Germanium Gamma-Ray Detectors; Other Solid-state Detectors; Slow Neutron Detection Methods; Fast Neutron Detection and Spectroscopy; Pulse Processing and Shaping; Linear and Logic Pulse Functions; Multichannel Pulse Analysis; Miscellaneous Detector Types; Background and Detector Shielding.

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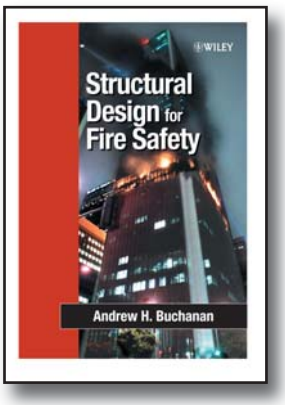
**9780471073383 • 816pp • 2000 • Hbk**
**Adoption price available on request**

# FIRE ENGINEERING




9780471890607 • 444pp • 2001
Pbk • £39.95/€46.00

## Structural Design for Fire Safety

**ANDREW H. BUCHANAN, University of Canterbury, New Zealand.**

This is an essential book for structural engineers who wish to improve their understanding of buildings exposed to severe fires. It is also an ideal textbook for introductory courses in fire safety in a civil or structural engineering degree programme, and is vital reading for final year students in fire protection and fire safety engineering. Furthermore, it successfully bridges the information gap between fire safety engineers, structural engineers and building inspectors, and will be of significant interest to architects, code officials, building designers and firefighters.

***Structural Design for Fire Safety*** provides expert guidance on:

- Interpreting code requirements for fire safety.
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In addition, the book includes valuable calculations and worked examples, unavailable elsewhere.

**Contents:** Introduction; Building Fire Safety; Fire and Heat; Room Fires; Fire Severity; Fire resistance; Structural Design for Fire; Steel Structures; Concrete Structures; Heavy Timber Construction; Light Frame Construction; Design Recommendations.

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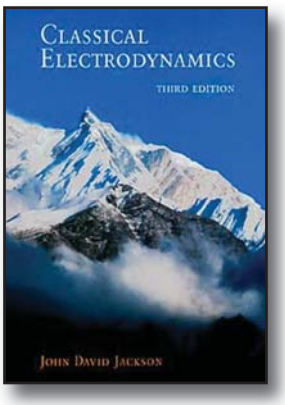
# ELECTROMAGNETICS

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**New to This Edition:**

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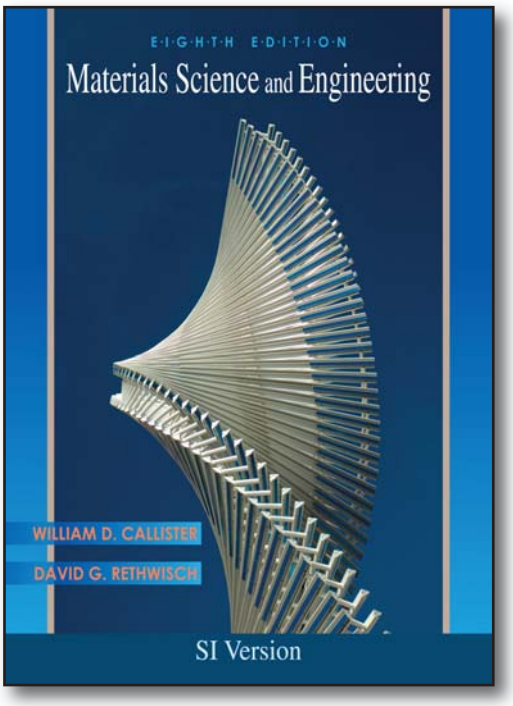


WILEY PLUS

# Materials Science and Engineering

## SI Version, 8th Edition

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The relationships among processing, structure, properties, and performance components for steels, glass-ceramics, polymer fibers, and silicon semiconductors are explored throughout the chapters.

**Features:**

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- Concept Check questions throughout the chapters quiz students on their understanding of key ideas in the chapter. Answers are provided on the student companion site.
- The approximate 500 figures include a large number of photographs that show the microstructure of various materials.
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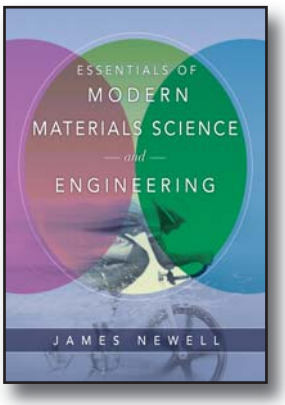
**www.wileyeurope.com/college/callister**

**9780470505861 • 976pp • April 2010 • Pbk • £46.99/€54.10**

**Contents:** 1 Introduction 2 Atomic Structure And Interatomic Bonding. 3 The Structure Of Crystalline Solids 4 Imperfections In Solids. 5 Diffusion. 6 Mechanical Properties Of Metals. 7 Dislocations And Strengthening Mechanisms. 8 Failure. 9 Phase Diagrams. 10 Phase Transformations In Metals: Development Of Microstructure And Alteration Of Mechanical Properties. 11 Applications And Processing Of Metal Alloys. 12 Structures And Properties Of Ceramics. 13 Applications And Processing Of Ceramics. 14 Polymer Structures. 15 Characteristics, Applications, And Processing Of Polymers. 16 Composites. 17 Corrosion And Degradation Of Materials. 18 Electrical Properties. 19 Thermal Properties. 20 Magnetic Properties. 21 Optical Properties (Web Site). 22 Materials Selection And Design Consideration. 23 Economic, Environmental, And Societal Issues In Materials Science And Engineering. Appendix A The International System Of Units (Si) Appendix B Properties Of Selected Engineering Materials. Appendix C Costs And Relative Costs For Selected Engineering Materials. Appendix D Repeat Unit Structures For Common Polymers. Appendix E Glass Transition And Melting Temperatures For Common Polymeric Materials.




9780471753650 • 432pp • 2008
Hbk • £34.99/€40.30

## Essentials of Modern Materials Science and Engineering

WILEY PLUS

1st Edition

**JAMES A. NEWELL, Rowan University.**

A unique resource that focuses on modern materials instead of metals.

Newell's ***Materials Science Engineering o***ffers a unique approach that emphasizes modern materials such as polymers, ceramics, and composites. This is a highly visual and accessible Material Science text with traditional contents. This book is a true introductory text; instead of going into great detail in many areas, the book provides key concepts and fundamentals students need to understand materials science and make informed decisions.

**Features:**

- It's practical and applicable. It is our goal for students, after completing the course and using this text, that they are prepared to make informed materials selection decisions.
- It's balanced. A variety of materials are presented to provide a broad overview of materials available to engineers.
- It's visual. This book strong use of visuals help students understand the concepts better than simply reading about them.
- Learning Objectives: Detailed learning objectives at the beginning of each chapter let the student know the specific goals of the chapter – what should you be able to do if you really understand the material.
- Homework Problems: The homework problems at the end of the chapter are a blend of numerical questions (Calculate the tensile strength of a 0.509 in2 beam…) and more open-ended qualitative questions (Compare and contrast the advantages and disadvantages of fillings made from dental composites with those made from amalgam) that require a deeper understanding to answer (and are much harder to copy).

**Contents:** 1 Introduction. 2 Structure in Materials. 3 Measurement of Mechanical Properties. 4 Metals. 5 Polymers. 6 Ceramics and Carbon Materials. 7 Composites. 8 Electronic and Optical Materials. 9 Biomaterials and Biological Materials. What Types of Materials Interact with Biological Systems?

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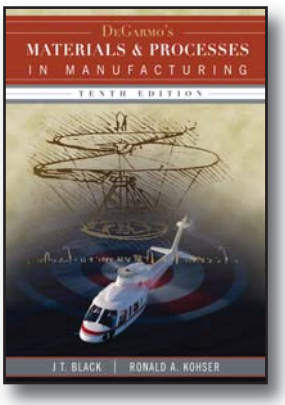


9780470055120 • 1032pp • 2007
Hbk • £47.99/€55.20

## DeGarmo's Materials and Processes in Manufacturing

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- Emphasizes application and design.

**Contents:** 1 Intro – overview how things are made. Part I Materials. 2 Properties of Materials. 3 Nature of Materials. 4 Equilibrium Diagrams. 5 Heat Treating. 6 Ferrous Mats. 7 Nonferrous. 8 Nonmetals -plastics ceramics. 9 Selection of Materials. 10 Measurement and Inspection and Testing. Part II Casting. 11 Casting Funds. 12 Sand and lost foam and wax. 13 Permanent Mold. 14 Rapid Prototyping, Tooling, and Fabrication. 15 Plastics Ceramics Composites Mfg. Part III Forming. 16 Forming funds. 17 Bulk. 18 Sheet. 19 Powder met. 20 Electronic Mfg processes. Part IV Machining. 21 Fundamentals of Machining/Orthogonal Machining. 22 Cutting Tools for Machining. 23 Turning and Boring Processes. 24 Drilling and Related Hole-Making Processes. 25 Milling. 26 Workholding Devices for Machine Tools. 27 Numerical Control (NC) and the A(4) level of automation. 28 NC-CNC and adaptive control. 29 Abrasive Machining Processes. 30 Manufacture of Gears and threads Part V Joining. 31 Welding Funds. 32 Gas and Arc. 33 Resistance. 34 Other welding and joining processes. 35 Adhesives Assembly and Mechanical joining. 36 Surface Engineering. Part VI Manufacturing Systems. 37 Manufacturing Automation. 38 Quality Engineering. 39 Manufacturing System Design. 40 The Enterprise.

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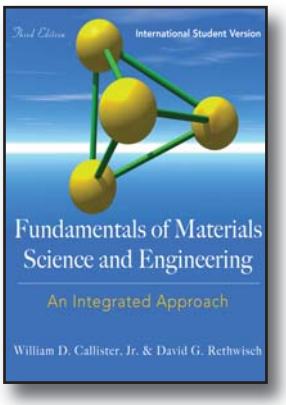


9780470234631 • 832pp • 2007
Hbk • £40.99/€47.20

## Fundamentals of Materials Science and Engineering

WILEY PLUS

An Integrated Approach

3rd Edition

**WILLIAM CALLISTER, Jr., University of Utah**
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***Fundamentals of Materials Science and Engineering, 3rd Edition*** continues to take an integrated approach to the topic organization. One specific structure, characteristic, or property type at a time is discussed for all three basic material types – metals, ceramics, and polymeric.

- The manner in which this version is organized allows the instructor to refamiliarize himself/herself with the subject, with a minimum of effort.
- Extensive coverage (at an introductory level) of mechanical properties and failure.
- Materials of Importance Pieces.
- Concept Check questions.
- Discipline-Specific Online Modules.

**Contents:** 1. Introduction. 2. Atomic Structure and Interatomic Bonding. 3. Structures of Metals and Ceramics. 4. Polymer Structures. 5. Imperfections in Solids. 6. Diffusion. 7. Mechanical Properties. 8. Deformation and Strengthening Mechanisms. 9. Failure. 10. Phase Diagrams. 11. Phase Transformations. 12. Electrical Properties. 13. Types and Applications of Materials. 14. Synthesis, Fabrication, and Processing of Materials. 15. Composites. 16. Corrosion and Degradation of Materials. 17. Thermal Properties. 18. Magnetic Properties. 19. Optical Properties. 20. Economic, Environmental, and Societal Issues in Materials Science and Engineering. Appendix A. The International System of Units (SI). Appendix B. Properties of Selected Engineering Materials. Appendix C. Costs and Relative Costs for Selected Engineering Materials. Appendix D. Repeat Unit Structures for Common Polymers. Appendix E. Glass Transition and Melting Temperatures for Common Polymeric Materials. Glossary. Answers to Selected Problems. Index.

**Resources:** WileyPLUS – an online course management system including the full online text and integrated resources.

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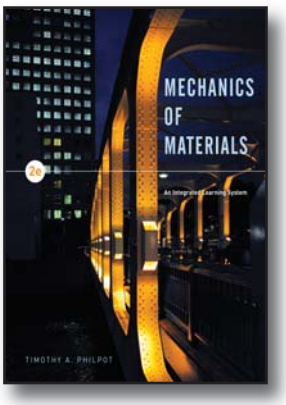


9780470565148 • 750pp
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## Mechanics of Materials

WILEY PLUS

An Integrated Learning System, 2nd Edition

**TIMOTHY A. PHILPOT, Missouri University of Science and Technology, Rolla, Missouri.**

Philpot helps visualize key mechanics of materials concepts better than any book available.

The new edition helps mechanical engineers visualize key mechanics of materials concepts following a sound problem solving methodology while thoroughly covering all the basics. The second edition seamlessly integrates the authors award winning Mecmovies software with the chapters.

**Features:**

- **Communicating visually** – The illustrations use color, shading, perspective, and dimension to clearly convey concepts while striving to place these concepts in the context of real world components and objects. These illustrations have been prepared by an engineer to be used by engineers to train future engineers.
- **MecMovies** – The book integrates computer based instruction into the traditional textbook format with the addition of the MecMovies instructional software.
- **Problem-solving schema** – The textbook and software include a number of multi-media features aimed at helping students organize and categorize the Mechanics of Materials concepts and problem-solving procedures.
- **Style and clarity of examples** – To a great extent, the Mechanics of Materials course is taught through examples, and consequently, this textbook places great emphasis on the presentation and quality of example problems. The commentary and the illustrations associated with example problems are particularly important for the learner. The commentary explains why various steps are taken and describes the rationale for each step in a solution process while the illustrations help build the mental imagery needed to transfer the concepts to differing situations.
- **Homework philosophy** – This textbook includes over 1080 homework problems in a range of difficulty suitable for learners at various stages of development. Problems have been designed with the intent of building the technical foundation and skills necessary for success in subsequent engineering design courses. The problems are intended to be challenging but at the same time practical and pertinent to traditional engineering practice.

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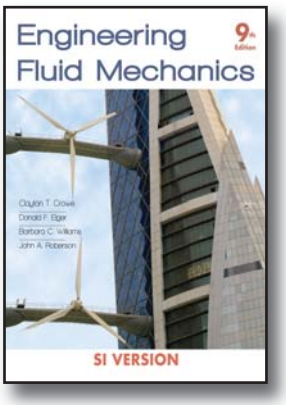


9780470409435 • 552pp
February 2009 • Pbk
£41.95/48.30

## Engineering Fluid Mechanics

SI Version, 9th Edition

**CLAYTON T. CROWE, Washington State University**
**DON F. ELGER, University of Idaho**
**BARBARA C. WILLIAMS, University of Idaho**
**JOHN A. ROBERSON.**

A visual approach to fluid mechanics that helps engineers connect the math and theory to practical applications.

***Engineering Fluid Mechanics,*** the newest edition of a book long admired within the academic and engineering communities for its reader-friendly text, dynamic visuals, and impeccable accuracy.

For any instructor in mechanical, civil, or aeronautical engineering seeking to foster a strong conceptual understanding of fluid flow phenomena***, Engineering Fluid Mechanics 9/e*** is the clear choice.

**Features:**

- Visualization: The text uses photos, line drawings, and animations to describe fluid flow phenomena and to illustrate problems.
- Examples: Historically dominated by civil engineering applications, these have been retained while adding material appropriate for other engineering disciplines as well.
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**Contents:** 1 Introduction. 2 Fluid Properties. 3 Fluid Statics. 4 Flowing Fluids and Pressure Variation. 5 Control Volume Approach and Continuity Equation. 6 Momentum Equation. 7 The Energy Equation. 8 Dimensional Analysis and Similitude. 9 Surface Resistance. 10 Flow in Conduits. 11 Drag and Lift. 12 Compressible Flow. 13 Flow Measurements. 14 Turbomachinery. 15 Flow in Open Channels. *Appendix A-1. Answers A-11. Index I-1.*

**Supplements:** WileyPLUS includes algorithmic, GO Tutorial and Multi-step problems. Solutions Manual.

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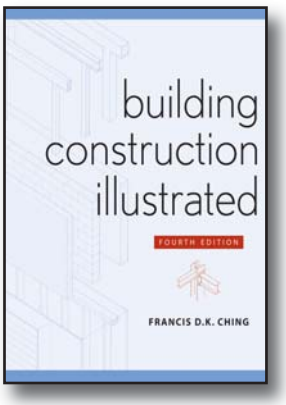


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Francis D.K. Ching's classic, bestselling guide to building construction now revised and updated!

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- Updated and revised to include the latest knowledge on sustainability, incorporation of building systems, and use of new materials.

**Contents:** The Building Site; The Building; Foundation Systems; Floor Systems; Wall Systems; Roof Systems; Moisture and Thermal Protection; Doors and Windows; Special Construction; Finish Work; Mechanical and Electrical Systems; Notes on Materials; Appendix; Bibliography; Index.

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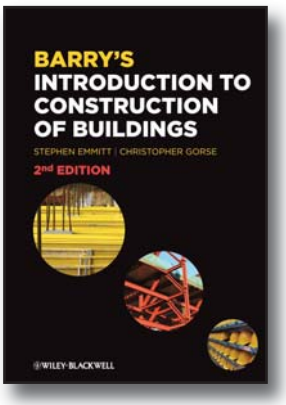


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## Barry's Introduction to Construction of Buildings

2nd Edition

**STEPHEN EMMITT, Professor of Architectural Technology in the Department of Civil and Building Engineering at Loughborough University**
**CHRISTOPHER GORSE, Senior Lecturer, School of the Built Environment, Leeds Metropolitan University.**

An authoritative, well established, comprehensive, practical and highly illustrated guide to construction practice.

This new edition of ***Barry's Introduction to Construction of Buildings*** adds considerable new material but remains based on the original concept of explaining construction technology through key functional/performance requirements for the main elements common to all buildings. Of particular note in this new edition are a fully integrated approach to environmental issues and construction sustainability.

The rest of the material has been updated as required, with particular attention paid to the illustrations. With over 150 new photographs and many revised figures, plus a supporting website, students learning the fundamentals of building and construction on undergraduate and other courses will find this the ideal introduction to the subject.

- A classic text that retains its original concept of explaining construction technology through key functional/performance requirements.
- The new edition features extensive revisions to information on the Building Regulations, plus expanded discussions of timber frame construction and prefabrication.
- Updates to text and illustrations reflecting the latest teaching approaches.

**Contents:** 1 Introduction. 2 Site Analysis and Set-up. 3 Groundwork and Foundations. 4 Floors. 5 Walls. 6 Roofs. 7 Windows. 8 Doors. 9 Stairs and Ramps. 10 Surface Finishes. 11 Solid Fuel, Gas and Electrical Services Provision. 12 Water Supply, Sanitation and Refuse Disposal. Appendix A Web Sites. Appendix B Additional References.

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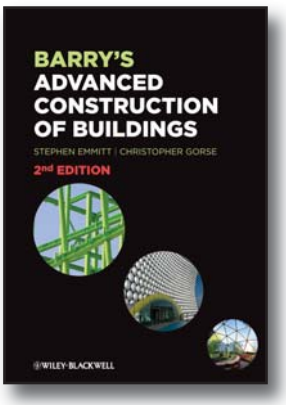


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## Barry's Advanced Construction of Buildings

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**CHRISTOPHER GORSE, Senior Lecturer, School of the Built Environment, Leeds Metropolitan University.**

An authoritative, well established, comprehensive, practical and highly illustrated guide to construction practice as used for larger scale residential, industrial and commercial buildings.

This new edition of ***Barry's Advanced Construction of Buildings*** retains the emphasis on larger-scale buildings: primarily residential, commercial and industrial buildings constructed with load bearing frames. A considerable amount of new material has been added but the text remains faithful to Barry's original concept of explaining construction technology through key functional and performance requirements for the main elements common to all buildings.

Of particular note in this new edition is the expanded coverage of building and construction sustainability. This is now presented within the main body of the text, rather than as a separate chapter. Material relating to the Building Regulations has been brought fully up to date, and there is a more thorough treatment of demolition. The rest of the text has been updated as required, with particular attention paid to the illustrations.

Advanced undergraduate students and those working towards similar qualifications in building and construction will find this the ideal book with which to continue their study of the subject.

**Contents:** Preface. 1 Introduction. 2 Scaffolding And Associated Work. 3 Foundations And Substructures. 4 Single Storey Frames, Shells And Lightweight Coverings. 5 Structural Steel Frames. 6 Structural Concrete Frames. 7 Cladding And Curtain Wall Construction. 8 Prefabrication And Off-Site Production. 9 Lifts And Escalators. 10 Fit Out And Second Fix. 11 Heating, Cooling And Services Provision. 12 Alternative Approaches To Construction. Appendix A Web Sites. Appendix B Additional References. Index.

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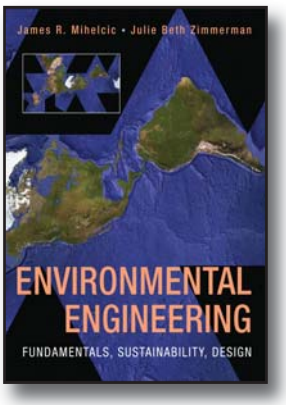


9780470165058 • 720pp
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## Environmental Engineering

Fundamentals, Sustainability, Design

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**JULIE B. ZIMMERMAN, Yale University.**

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Civil engineers are introduced to chemistry and biology through a mass and energy balance approach with this book. The modules include rich content such as animations, audio, video, interactive problem solving and links to explorations. Civil engineers will also gain a global perspective so they can take a leadership role in sustainable development.

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- A focus on sustainable design.
- To use the tools of green engineering design truly to design for sustainability.
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- Web Modules Icons in the margin indicate when Web modules are available on the book Web site to enhance and expand on the concepts presented in the book.
- Modules include animations, video clips, spreadsheets, document and PDF files, and executables.

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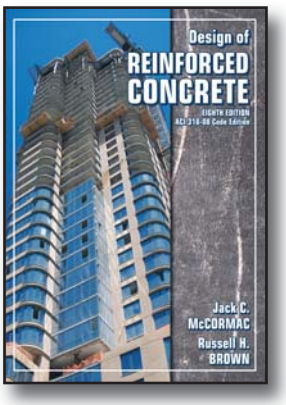


9780470279274 • 640pp
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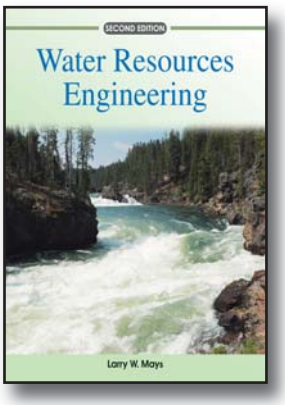


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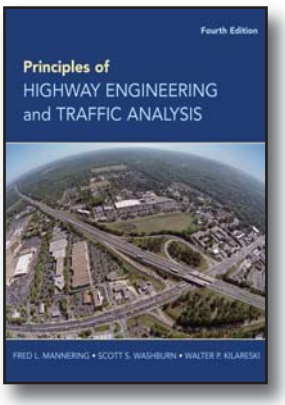


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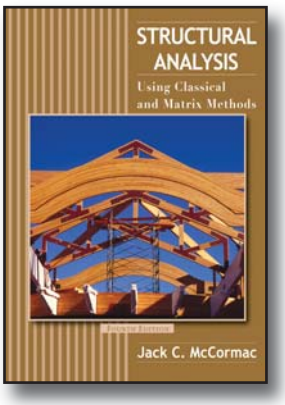


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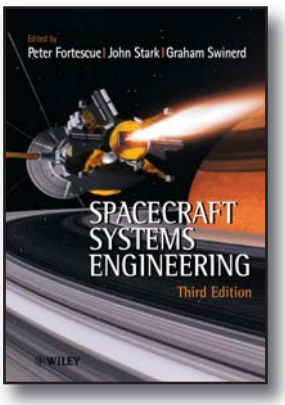


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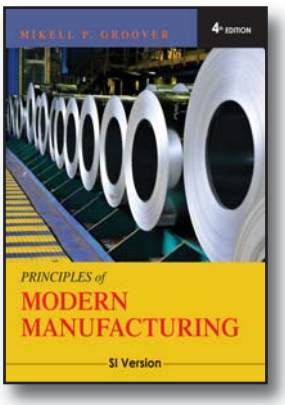


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Materials, Processes, and Systems

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- Provides more equations and numerical problem exercises than other books in the field.
- Introduces more modern topics, including new materials, processes and systems.
- Offers thoroughly revised end of chapter problems.
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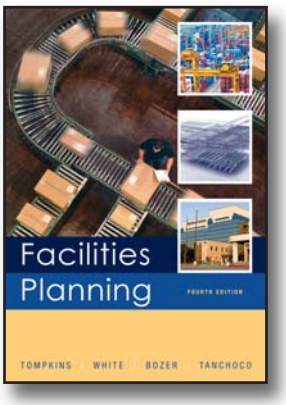


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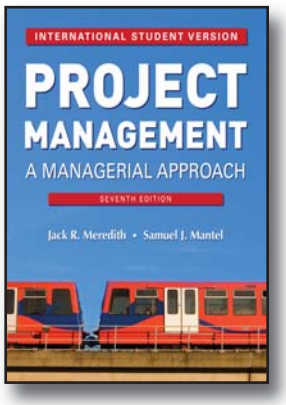


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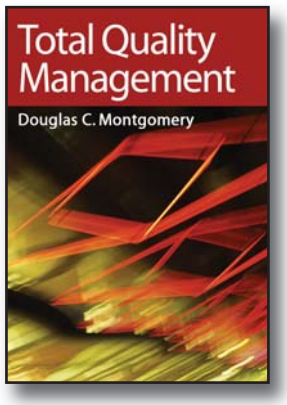


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A new resource that uncovers quality management techniques that are critical in today's business world.

This book follows an organized approach to give students the tools to understand quality management. Focus is placed on both the management structure and the statistical and analytical tools used in this undertaking.

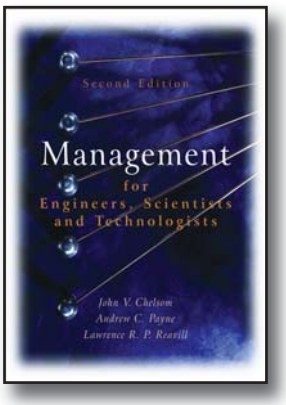
**Features:**

- Business managers will learn about the basic concepts of reliability in designing new products or improving existing ones.
- Important tools such as Pareto charts, cause-and-effect analysis, and scatter diagrams are covered.
- Control charts for measurements data are explored as well as techniques for lot-by-lot acceptance sampling.
- The new edition details six sigma and the DMAIC process for quality improvement.

**Contents:** 1 Introduction to Quality. 2 Management Aspects of Quality. 3 Tools and Techniques for Quality Control and Improvement. 4 Statistical Inference about Product and Process Quality. 5 Control Charts for Variables. 6 Control Charts for Attributes. 7 Lot-by-Lot Acceptance Sampling Procedures. 8 Process Design and Improvement with Designed Experiments. 9 Reliability. References Glossary. Appendix Tables. Answers to Selected Exercises. Index.

**www.wileyeurope.com/college/montgomery**

9780471697916 • 608pp • March 2010 • Hbk
£37.99/€43.70




## Management for Engineers, Scientists and Technologists

2nd Edition

**JOHN V. CHELSOM**
**LAWRENCE R. P. REAVILL, both of University of London and the Open University**
**ANDREW C. PAYNE, City University.**

Offers a practical and accessible introduction to management and provides a comprehensive guide to the management tools used in managing people and other resources.

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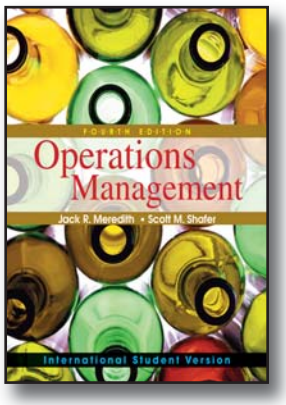
**Supplements:** Exercises and Solutions.

**www.wileyeurope.com/college/chelsom**

**9780470021262 • 558pp • 2004 • Pbk**
**£36.99/€42.60**

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**SCOTT M. SHAFER, both of University of Cincinnati.**

Meredith and Shafer's ***Operations Management, 4th Edition*** focuses on what BAs need to know about operations in their careers. It introduces the basic concepts of operations management with a strategic, conceptual, and contemporary approach.

The authors have kept topics currently facing MBAs such as supply chain management, the balanced scorecard, and yield management, as well as the needs of marketing, finance and other majors in mind. The result is a clear, streamlined text that clearly outlines how basic understanding of operations is important to all career paths.

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- **NEW** discussions on when to use Re-engineering, Lean Management, and Six Sigma.

**Contents:** 1 Competitive Operations for the Global Arena. 2 Designing the Transformation System. 3 Monitoring and Controlling the Transformation System. 4 Six Sigma for Improving the Transformation System. 5 Lean Operations Improve Transformation System Value. 6 Project Management and the Transformation System. 7 Managing Supply Chain Logistics and Inventories. 8 Capacity Management through Location and Scheduling.

**www.wileyeurope.com/college/meredith**

**9780470524572 • 460pp • April 2010 • Pbk**
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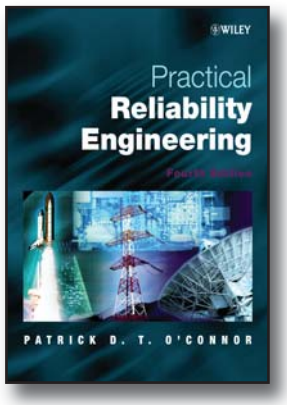


## Practical Reliability Engineering

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**PATRICK D.T. O'CONNOR, Stevenage**
**DAVID W. NEWTON**
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The classic text on reliability engineering and management has now been fully revised and updated. ***Practical Reliability Engineering*** provides a comprehensive, up-to-date description of all the important methods for the design, development, manufacture and maintenance of reliable engineering products and systems.

**Contents:** Prefaces; Notation and Definitions; Introduction to Reliabilty Engineering; Reliability Mathematics; Probability Plotting; Load-strength Interference; Statistical Experiments; Reliability Prediction and Modelling; Reliability in Design; Reliability of Mechanical Components and Systems; Electronic Systems Reliability; Software Reliability; Reliability Testing; Analysing Reliability Data; Reliability in Manufacture; Maintainability, Maintenance and Availability; Reliability Management; Appendices; Index.

**Supplements:** Solutions Manual.

**www.wileyeurope.com/college**

**9780470844632 • 540pp • 2002 • Pbk**
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## Information Technology Project Management

3rd Edition

**JACK T. MARCHEWKA, Northern Illinois University.**

The Third Edition of Jack Marchewka's ***Information Technology Project Management*** focuses on how to create Measurable Organizational Value (MOV) through IT projects. The author uses the concept of MOV, combined with his own research, to create a solid foundation for making decisions throughout the project's lifecycle. The book's integration of project management and IT concepts provides students with the tools and techniques they need to develop in this field.

- Takes you through the different phases of the project life cycle and introduces the concepts and tools that are appropriate for each specific phase of the project.
- Incorporates nine areas outlined in the Project Management Institute's Project Management Body of Knowledge (PMBOK) into the basic concepts associated with information systems management and software engineering.
- NEW material on critical chain project management.

**Contents:** 1: An Overview of I.T. Project Management. 2: The Business Case. 3: The Project Charter. 4: The Project Team. 5: The Scope Management. 6: The Work Breakdown Structure (WBS). 7: The Project's Schedule and Budget. 8: The Risk Management. 9: The Project Communication. 10: The IT Project Quality. 11: Managing Change, Resistance, and Conflict. 12: Managing Project Procurement and Outsourcing. 13: Project Leadership and Ethics. 14: The Implementation Plan and Project Closure.

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**9780470409480 • 440pp • April 2009 • Pbk**
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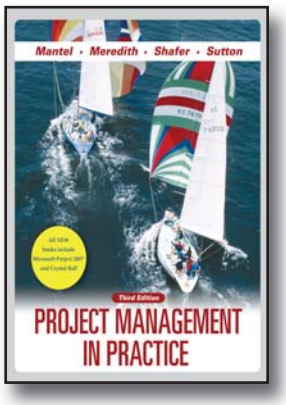


## Project Management in Practice

3rd Edition

**SAMUEL J. MANTEL, University of Cincinatti, USA**
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Offering streamlined coverage with an applied approach, ***Project Management in Practice, 3rd Edition*** focuses on the technical aspects of project management that are directly related to practice. This concise, hands-on text is about doing project management and is ideal for a one semester, or brief module on project management. The textbook is organized around the project management life cycle and it provides students with essential project management concepts, with a focus on PMBOK, the Project Management Body of Knowledge.

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## Engineering Design Methods

Strategies for Product Design

4th Edition

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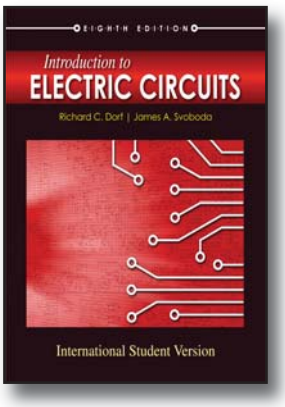
The Fourth Edition of this important and integral engineering design text book contains new case studies, examples, and problems as well as a significant new chapter presenting the User Scenarios Method. It fills the gap in the current symmetrical problem/solution model of the design process linking Overall problem and Overall solution. It presents a procedure and examples for investigating potential product user wants and needs, including the development of user profiles, personae and scenarios, and culminating in a clear statement (a design brief) that identifies an opportunity for developing a new product concept.

**Contents:** Part One: Understanding Design. 1. The Nature of Design. 2. Design Ability. 3. The Design Process. Part Two: Doing Design. 4. New Design Procedures. 5. Identifying Opportunities. 6. Clarifying Objectives. 7. Establishing Functions. 8. Setting Requirements. 9. Determining Characteristics.10. Generating Alternatives. 11. Evaluating Alternatives. 12. Improving Details. Part Three: Managing Design. 13. Design Strategies. 14. Product Development. References. Index.

**www.wileyeurope.com/college/cross**

**9780470519264 • 224pp • 2008 • Pbk**
**£29.95/€34.50**




## Introduction to Electric Circuits

8th Edition

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The eighth edition builds on the quality and quantity of problem sets and strong problem-solving methodology.

Electrical engineers have come to trust the quality and quantity of problem sets along with the clear problem-solving methodology that Dorf's book provides. In the new edition, they'll find a more effective implementation of circuit design and evaluation problems.

- Throughout the book, emphasis is placed on design, implemented through design examples, design problems, and the How Can We Check feature.
- Each chapter and section also incorporates learning objectives to help electrical engineers gain a stronger understanding of the material.
- The text includes hundreds of exercises and problems to reinforce material, with liberally provided hints and answers.

**Contents:** 1 Electric Circuit Variables. 2 Circuit Elements. 3 Resistive Circuits. 4 Methods Of Analysis Of Resistive Circuits. 5 Circuit Theorems. 6 The Operational Amplifier. 7 Energy Storage Elements. 8 The Complete Response Of Rl And Rc Circuits. 9 The Complete Response Of Circuits With Two Energy Storage Elements. 10 Sinusoidals Steady-State Analysis. 11 Ac Steady-State Power. 12 Three-Phase Circuits. 13 Frequency Response. 14 The Laplace Transform. 15 Fourier Series And Fourier Transform. 16 Filter Circuits. 17 Two-Port And Three-Port Networks.

**www.wileyeurope.com/college/dorf**

**9780470553022 • 880pp • April 2010 • Pbk**
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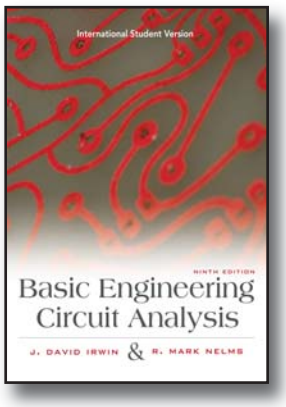


## Basic Engineering Circuit Analysis

9th Edition

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Over the last two decades, Irwin has built a solid reputation for its highly engaging presentation, clear explanations, and extensive array of helpful learning aids. Now in a new Ninth Edition, this reader-friendly book has been completely revised and improved to ensure that the learning experience is enhanced. It's built on the strength of Irwin's problem-solving methodology, providing readers with a strong foundation as they advance in the field.

- Accessibility: Students report that it is the most accessible presentation of circuit analysis.
- Detailed inclusion of Pspice and MATLAB: Irwin's coverage of Pspice is cited as the best among circuits books. MATLAB is becoming more prominent in this course.
- Lecture Slides: Not just PowerPoints of the figures, these slides summarize key concepts and are intended for use by the professor in lectures.

**Contents:** 1. Basic Concepts. 2. Resistive Circuits. 3. Nodal and Loop Analysis Techniques. 4. Operational Amplifiers. 5. Additional Analysis Techniques. 6. Capacitance and Inductance. 7. First and Second Order Transient Circuits. 8. AC Steady State Analysis. 9. Steady-State Power Analysis. 10. Magnetically Coupled Networks. 11. Polyphase Circuits. 12. Variable- Frequency Network Performance. 13. The Laplace Transform. 14. Application of the Laplace Transform to Circuit Analysis. 15. Fourier Analysis Techniques. 16. Two-Port Networks. Appendix Complex Numbers.

**Resources:** WileyPLUS – an online course management system including the full online text and integrated resources.

**www.wileyeurope.com/college/irwin**

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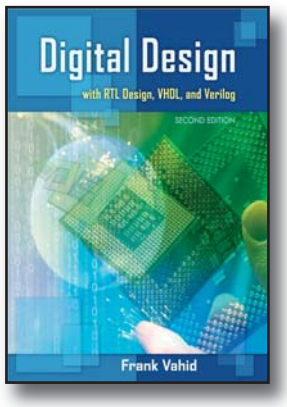


## Digital System Design

2nd Edition

**FRANK VAHID, University of California.**

Vahid's RTL early approach better assists digital designers in grasping the essential design fundamentals before digging into specific details of design optimization.

This title focuses on a modern perspective whereas other books in the field are rooted in the 70s and 80s. The second edition quickly progresses through the low-levels of design, making a clear distinction between design and gate-level minimization. It also emphasizes how one of the key uses of digital design today is to build high-performance alternatives to software in addition to glue logic.

- Extensive use of examples, including basic ones to teach new concepts, and applications such as pacemakers and cell phones to demonstrate relevance.
- HDL Neutral Synthesizable VHDL, Verilog, and SystemC coverage all appear in the last chapter, with subsections corresponding to earlier chapters, allowing early or late HDL introduction, without cluttering main concepts.

**Contents:** 1 Introduction. 2 Combinational Logic Design. 3 Sequential Logic Design Controllers. 4 Datapath Components. 5 Register Transfer Level (RTL) Design. 6 Optimizations and Tradeoffs. 7 Physical Implementation. 8 Programmable Processors. 9 Hardware Description Languages. Appendix A: Boolean Algebras. Appendix B: Additional Topics in Binary Number Systems. Appendix C: Extended RTL Design Example Index.

**www.wileyeurope.com/college/vahid**

**9780470531082 • 550pp • April 2010 • Hbk**
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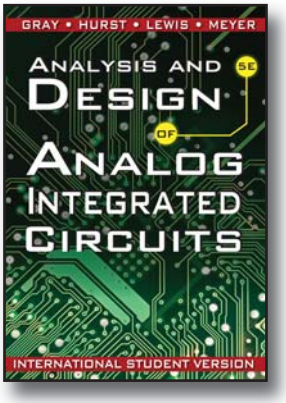


## Analysis and Design of Analog Integrated Circuits

5th Edition

**PAUL R. GRAY, University of California BERKELEY PAUL J. HURST, University of California**
**DAVIS S. LEWIS, and ROBERT G. MEYER, University of California, Berkeley.**

The only comprehensive book in the market covering CMOS, bipolar technologies, and biCMOS integrated circuits.

The Fifth Edition provides a comprehensive treatment of analog integrated circuit analysis and design, starting from the basics and through current industrial practices.

**Features:**

- The authors combine bipolar, CMOS and BiCMOS analog integrated-circuit design into a unified treatment that stresses their commonalities and highlights their differences.
- Extensive use of SPICE computer programs and is an integral part of may examples in the problem sets.
- Streamlined and up-to-date coverage.

**Contents:** 1 Models for Integrated-Circuit Active Devices. 2 Bipolar, MOS, and BiCMOS Integrated-Circuit Technology. 3 Single-Transistor and Multiple-Transistor Amplifiers. 4 Current Mirrors, Active Loads, and References. 5 Output Stages. 6 Operational Amplifiers with Single-Ended Outputs. 7 Frequency Response of Integrated Circuits. 8 Feedback. 9 Frequency Response and Stability of Feedback Amplifiers. 10 Nonlinear Analog Circuits. 11 Noise in Integrated Circuits. 12 Fully Differential Operational Amplifiers.

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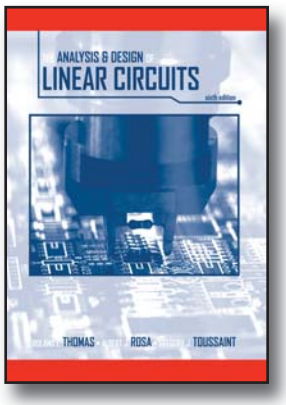


## The Analysis and Design of Linear Circuits

5th Edition

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**GREGORY J. TOUSSAINT, Air Force Institute of Technology.**

An introduction to resistance circuits that covers basic circuit analysis, circuit analysis techniques, and active circuits.

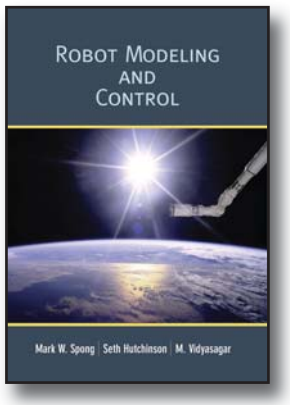
Text focuses on real-world applications and emphasizes the use of computers to assist the designer in his/her task.

**Features:**

- Emphasis on computing tools. Includes examples, exercises and homework problems that use MATLAB, Excel and OrCAD have been greatly expanded.
- Each chapter has several learning objectives, supported by at least ten homework problems specifically designed to test the student's mastery of the objective.
- More than 70% of the homework problems are new or revised.

**www.wileyeurope.com/college/thomas**

**9780470383308 • 960pp • January 2009 • Hbk**
**Adoption price available on request**




## Robot Modeling and Control

**MARK W. SPONG**
**SETH HUTCHINSON**
**both of University of Illinois at Urbana-Champaign**
**M. VIDYASAGAR, Tata Consulting Service.**

***Robot Modeling and Control*** introduces the fundamentals of robot modeling and control and provides background material on terminology, linear algebra, dynamical systems and stability theory, followed by detailed coverage of forward and inverse kinematics, Jacobians, Lagrangian dynamics, motion planning, robust and adaptive motion and force control, and computer vision.

**Features:**

- No other text offers both the detailed theoretical development and step-by-step computational approach to kinematics.
- Vision and visual servo control provide a self contained introduction to the basics of computer vision as applied to robot manipulator. Students will be able to program robots to manipulate objects sensed by cameras.

**Contents:** Introduction; Rigid Motions and Homogeneous Transformations; Forward and Inverse Kinematics; Velocity Kinematics – The Jacobian; Path and Trajectory Planning; Dynamics; Independent Joint Control; Multivariable Control; Force Control; Geometric Non-Linear Control; Computer Vision; Vision-Based Control; Appendix A Trigonometry; Appendix B Linear Algebra; Appendix C State Space Representation of Dynamical Systems; Appendix D Lyapunov Stability; References; Index.

**Supplements:** Instructor's Solutions Manual; PowerPoint Slides.

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**9780471649908 • 416pp • 2006 • Hbk**
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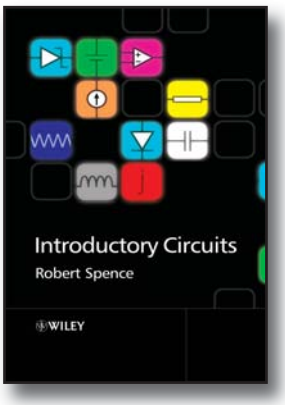
# CIRCUIT ANALYSIS AND DIGITAL DESIGN




9780470779712 • 256pp • 2008
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## Introductory Circuits

**ROBERT SPENCE, Imperial College London.**

Compact but comprehensive, this textbook presents the essential concepts of electronic circuit theory. As well as covering classical linear theory involving resistance, capacitance and inductance it treats practical nonlinear circuits containing components such as operational amplifiers, Zener diodes and exponential diodes. The book's straightforward approach highlights the similarity between the equations describing direct current (DC), alternating current (AC) and small-signal nonlinear behaviour, thus making the analysis of these circuits easier to comprehend.

***Introductory Circuits*** explains:

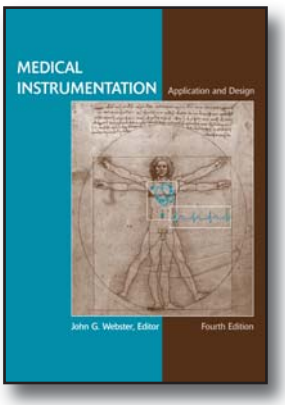
- the laws and analysis of DC circuits including those containing controlled sources;
- AC circuits, focusing on complex currents and voltages, and with extension to frequency domain performance;
- opamp circuits, including their use in amplifiers and switches;
- change behaviour within circuits, whether intentional (small-signal performance) or caused by unwanted changes in components.

In addition to worked examples within the text a number of problems for student solution are provided at the end of each chapter, ranging in difficulty from the simple to the more challenging. Most solutions for these problems are provided in the book, while others can be found on the accompanying website.

**Contents:** 1 Circuit Design. 2 Electrical variables. Overview: DC Circuits. 3 Circuit Laws and Equivalence [+ exercises, problems and longer problems]. 4 Circuit analysis. 5 Voltage-controlled Current Sources and Nonlinear components. Overview: Operational Amplifiers (opamps). 6 Opamp characteristics, large signal operation [+ exercises, problems and longer problems]. 7 Linear operation of the opamp [+exercises, problems and longer problems]. 8 Mixed linear and nonlinear operation. Overview: AC Circuits. 9 Components and relations. 10 Phasor diagrams. 11 Complex currents and voltages. 12 AC circuit analysis; similarity to DC behavior. 13 Frequency domain behavior. Overview: The analysis of change. 14 Zener diode stabilization of voltage; laws governing change behavior. 15 Small changes in nonlinear circuits; systematic analysis.

**www.wiley.com/go/spence_circuits**

# INSTRUMENTATION

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Application and Design

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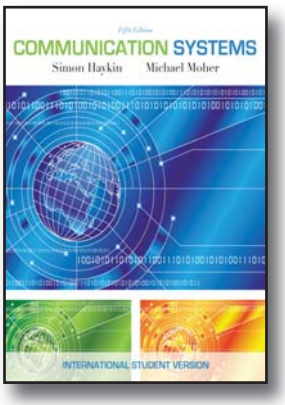
Completely updated with the latest information in the field, the new fourth edition of this successful book provides a comprehensive overview of the basic concepts of medical instrumentation and clearly shows the interdisciplinary nature of bioinstrumentation.

- A detailed reference for professionals in the medical instrumentation area.
- Describes the principles, applications and design of the medical instrumentation most commonly used in hospitals.
- Stresses fundamental principles of operation and general types of equipment.
- Provides excellent, well-grounded examples using real medical devices such as the analysis of an electrocardiograph.
- Offers a good balance between chemistry, physiology and biomedical instruments.
- Presents enough information so that a scientist can design instruments that may not be commercially available.

**Contents:** Basic Concepts of Medical Instrumentation; Basic Sensors and Principles; Amplifiers and Signal Processing; The Origin of Biopotentials; Biopotential Electrodes; Biopotential Amplifiers; Blood Pressure and Sound; Measurement of Flow and Volume of Blood; Measurements of the Respiratory System; Chemical Biosensors; Clinical Laboratory Instrumentation; Medical Imaging Systems; Therapeutic and Prosthetic Devices; Electrical Safety; Appendix; Index.

**www.wileyeurope.com/college/webster**




9780470169964 • 640pp
May 2009 • Pbk • £41.95/€48.30

## Communication Systems

5th Edition

**SIMON HAYKIN, McMaster University**
**MICHAEL MOHER, Space-Time DSP.**

The latest edition in this best-selling, easy to read, communication systems book.

Now in its 5th edition, this best-selling communication systems text continues to include the most comprehensive coverage of digital communications at undergraduate level. In addition to being the most up-to-date communications text available, Haykin has added more MATLAB computer experiments and improved examples and problems throughout.

**Features:**

- Most up-to-date treatment of communications systems in the market.
- Themed examples show modern applications, such as wireless modulation techniques.
- New introduction chapter that includes updated examples and homework problems.

**Contents:** 1 Fourier Analysis of Signals and Systems. 2 Analog Modulation Theory. 3 Probability Theory. 4 Random Processes. 5 Noise in Analog Modulation Systems. 6 Information Theory. 7 Analog to Digital Conversion and Data Compression. 8 Signaling Over AWGN Channels. 9 Synchronization. 10 Signaling Over Band-Limited Channels. 11 Multichannel Modulation. 12 Signaling Over Fading Channels. 13 Spread Spectrum Modulation. 14 Error Control Coding. 15 Multiuser Communications. Appendix 1: Bessel Functions. 2: Method of Lagrange Multipliers. 3: Bounds on the Q-function. 4: Cryptography. 5: List of Tables.

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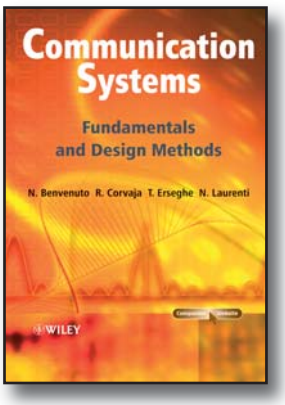



9780470018224 • 552pp • 2006
Hbk • £45.00/€51.80

## Communication Systems

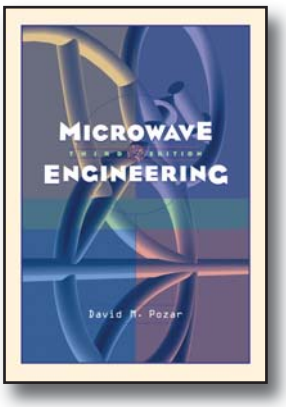
Fundamentals and Design Methods

**NEVIO BENVENUTO**
**ROBERTO CORVAJA**
**TOMASO ERSEGHE**
**NICOLA LAURENTI, all of University of Padova, Italy.**

In undergraduate classes on communications it is crucial for the students to acquire a deep and thorough understanding of the system principles, methods of analysis, and design tradeoffs. ***Communication Systems: Fundamentals and Design Methods*** provides a rigorous mathematical treatment of modulations, covering well-established analog techniques, such as AM and FM, and the more advanced digital formats, such as QAM and CDMA.

**Contents:** Introduction; PRELIMINARIES ON DETERMINISTIC AND RANDOM SIGNALS: Time and frequency domain representation; Energy and power; Systems and transformations; Bandwidth: Representation of passband signals; Random variables and vectors; Random processes; Systems with random inputs and outputs; CHARACTERIZATION OF TRANSMISSION MEDIA AND DEVICES: Two-terminal devices; Two-port networks; Transmission system model; Transmission media; ANALOG MODULATION SYSTEMS: Principle and system model; Linear modulation; Amplitude modulation (AM); Phase locked loop (PLL); Angular modulation; Comparison of analog modulation systems; Frequency division multiplexing – multiple access; Super-heterodyne receiver; Examples of application; DIGITAL MODULATION SYSTEMS: The space of signals; Digital modulation theory; Binary modulation; M-ary modulation; The digital modulation system; Examples of digital modulations; Comparison of digital modulation systems: DIGITAL TRANSMISSION OF ANALOG SIGNALS: Digital representation of waveforms; Digital transmission of analog signals; Time division multiplexing (TDM); Examples of application; TRANSMISSION OVER DISPERSIVE CHANNELS: Channel model; Baseband digital transmission (PAM systems); Passband digital transmission (QAM systems); Analysis of amplitude modulated systems; Intersymbol interference; Performance analysis; Application examples; ELEMENTS OF INFORMATION THEORY, SOURCE AND CHANNEL CODING: Information and entropy; Source coding; Channel coding; Channel capacity.

**www.wileyeurope.com/college/benvenuto**




## Microwave Engineering

3rd Edition

**DAVID POZAR, University of Massachusetts.**

Focusing on the design of microwave circuits and components, this valuable reference offers professionals and students an introduction to the fundamental concepts necessary for real world design. The author successfully introduces Maxwell's equations, wave propagation, network analysis, and design principles as applied to modern microwave engineering.

**Contents:** 1. Electromagnetic Theory; 2. Transmission Line Theory; 3. Transmission Lines and Waveguides; 4. Microwave Network Analysis; 5. Impedance Matching and Tuning; 6. Microwave Resonators; 7. Power Dividers and Directional Couplers; 8. Microwave Filters; 9. Theory and Design of Ferrimagnetic Components; 10. Noise and Active RF Components; 11. Microwave Amplifier Design; 12. Oscillators and Mixers; 13. Introduction to Microwave Systems; Appendix A. Prefixes; Appendix B. Vector Analysis; Appendix C. Bessel Functions; Appendix D. Other Mathematical Results; Appendix E. Physical Constants; Appendix F. Conductivities for Some Materials; Appendix G. Dielectric Constants and Loss Tangents for Some Materials; Appendix H. Properties of Some Microwave Ferrite Materials; Appendix I. Standard Rectangular Waveguide Data; Appendix J. Standard Coaxial Cable Data; Index.

**www.wileyeurope.com/college/pozar**

**9780471448785 • 720pp • 2005 • Hbk**
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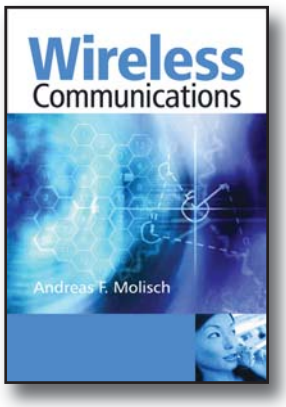


## Wireless Communications

**ANDREAS MOLISCH, AT&T Labs, USA.**

***Wireless Communications*** will provide a self-contained all encompassing current treatment of the area and topics covered will include directional channel modelling, multi-user detection, MIMO systems, and 3G standards.

- Provides a comprehensive and current treatment of a very hot topic, one of the fastest growing fields of communications.
- Offers a modern introductory textbook on the principles of mobile radio.
- Combines mathematical derivations with thorough explanations of the physical facts.

**Contents:** 1 Applications and requirements of wireless services, 2 Technical challenges of wireless communications, 3 Noise – and interference-limited systems, 4 Propagation mechanisms, 5 Statistical description of the wireless channel, 6 Wideband and directional channel characterization, 7 Channel models, 8 Channel sounding, 9 Antennas, 10 Structure of a wireless communication link, 11 Modulation formats, 13 Diversity, 14 Channel coding, 15 Speech coding (Gernot Kubin, Graz University of Technology, Austria), 16 Equalizers, 17 Multiple access and the cellular principle, 18 Spread spectrum systems, 19 Orthogonal frequency division multiplexing (OFDM), 21 GSM – Global System for Mobile communications, 22 IS-95 and CDMA 2000, 23 WCDMA/UMTS, 24 Wireless Local Area Networks, 25 Exercises.

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**9780470848883 • 576pp • 2005 • Pbk**
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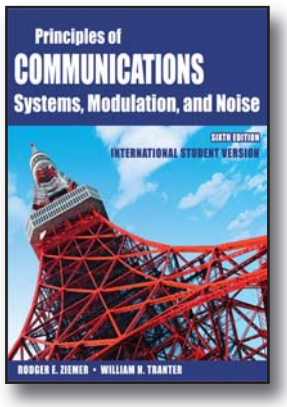


## Principles of Communications

6th Edition

**RODGER E. ZIEMER**
**WILLIAM H. TRANTER.**

An up-to-date guide that provides in-depth coverage of digital data transmission.

Ziemer and Tranter provide a thorough treatment of the principles of communications.

**Features:**

- Examples illustrating key points in the text included in each chapter.
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- Computational Computer Examples included in each chapter. Illustrates the use of the computer for calculation of various performance curves.

**Contents:** 1. Introduction. 2. Signal And Linear System Analysis. 3. Basic Modulation Techniques. 4. Principles Of Baseband Digital Data Transmission. 5. Overview Of Probability and Random Variables. 6. Random Signals and Noise. 7. Noise In Modulation Systems. 8. Principles Of Data Transmission In Noise. 9. Advanced Data Communications Topics. 10. Optimum Receivers and Signal Space Concepts. 11. Information Theory and Coding. Appendices.

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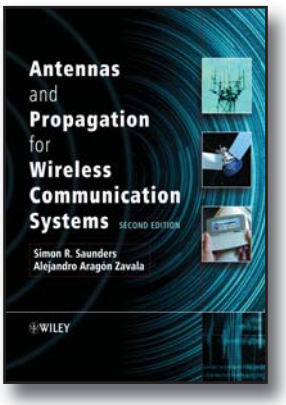
**£43.99/€50.60**




## Antennas and Propagation for Wireless Communication Systems

2nd Edition

**SIMON R. SAUNDERS, Cellular Design Services Limited**
**ALEJANDRO ARAGON-ZAVALA, ITESM, Mexico.**

Antennas and propagation are the key factors influencing the robustness and quality of the wireless communication channel. This book introduces the basic concepts and specific applications of antennas and propagation to wireless systems, covering terrestrial and satellite radio systems in both mobile and fixed contexts.

**Contents:** Introduction: The Wireless Communication Channel; Properties of Electromagnetic Waves; Propagation Mechanisms; Antenna Fundamentals; Basic Propagation Models; Terrestrial Fixed Links; Satellite Fixed Links; Macrocells; Shadowing; Narrowband Fast Fading; Wideband Fast Fading; Microcells; Picocells; Megacells; Antennas for Mobile Systems; Overcoming Narrowband Fading via Diversity; Overcoming Wideband Fading; Adaptive Antennas; Channel Measurements for Mobile Systems; Future Developments in the Wireless Communication Channel; Appendix A Statistics, Probability and Stochastic Processes; Appendix B Tables and Data.

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**9780470848791 • 448pp • 2007 • Hbk**
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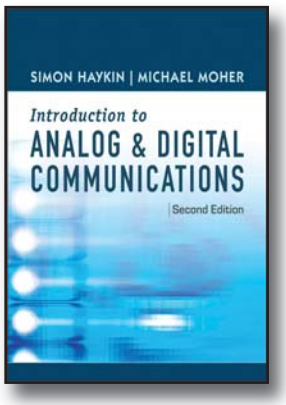


WILEY PLUS

## Introduction to Analog & Digital Communications

2nd Edition

**SIMON HAYKIN, McMaster University**
**MICHAEL MOHER.**

The second edition of this accessible book provides readers with an introductory treatment of communication theory as applied to the transmission of information-bearing signals. While it covers analog communications, the emphasis is placed on digital technology.

**Contents:** Introduction, Representation of Signals and Systems, Pulse Modulation and Digital Signaling, Analog and Digital Modulation Techniques, Electrical Noise, Optimum Receivers for Data Communication, Multiplexing Techniques, Multiple-Access Systems, Appendices: Power Ratios and Decibels, Bessel Function, System Noise Calculations, Mathematical Tables.

**Resources:** WileyPLUS – an online course management system including the full online text and integrated resources.

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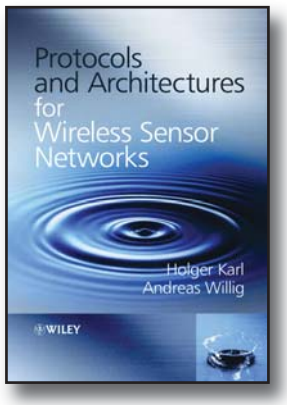


## Protocols and Architectures for Wireless Sensor Networks

**HOLGER KARL, Technische Universität Berlin**
**ANDREAS WILLIG, University of Pottsdam.**

This well-written text provides a single source of information on one of the hottest networking topics – wireless sensor networks (WSNs). It provides a thorough description of the most important problems and questions that have to be addressed in a WSN and gives an overview of the current state-of-the-art and puts all the individual solutions into perspective to each other. Focusing on the protocols used in WSNs, this text stresses the close relationship between protocols and applications.

**Contents:** 1. Introduction. PART I: ARCHITECTURES. 2. Single node architecture. 3. Network architecture. PART II: COMMUNICATION PROTOCOLS. 4. Physical Layer 5. MAC. 6. Link Layer Protocols. 7. Naming and Addressing. 8. Time Synchronization. 9. Localization and Positioning. 10. Topology. 11. Routing protocols. 12. Data-centric and content-based. 13. Transport Layer and Quality of Service. 14. Advanced application support. Bibliography. Index.

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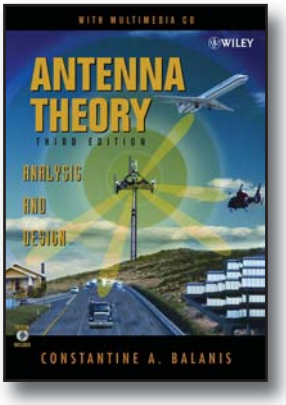


## Antenna Theory

Analysis and Design

3rd Edition

**CONSTANTINE A. BALANIS, Arizona State University.**

Like the previous editions, the Third Edition of ***Antenna Theory*** is designed to meet the needs of electrical engineering and physics students at the senior undergraduate and beginning graduate levels, and those of practicing engineers as well. The text assumes that the students have a knowledge of basic undergraduate electromagnetic theory, including Maxwell's equations and the wave equation, introductory physics, and differential and integral calculus.

**Contents:** 1. Antennas. 2. Fundamental Parameters of Antennas. 3. Radiation Integrals and Auxiliary Potential Functions. 4. Linear Wire Antennas. 5. Loop Antennas. 6. Arrays: Linear, Planar, and Circular. 7. Antenna Synthesis and Continuous Sources. 8. Integral Equations, Moment Method, and Self and Mutual Impedances. 9. Broadband Dipoles and Matching Techniques. 10. Traveling Wave and Broadband Antennas. 11. Frequency Independent Antennas, Antenna Miniaturization and Fractal Antennas. 12. Aperture Antennas. 13. Horn Antennas. 14. Microstrip Antennas. 15. Reflector Antennas. 16. Smart Antennas. 17. Antenna Measurements. Appendices.

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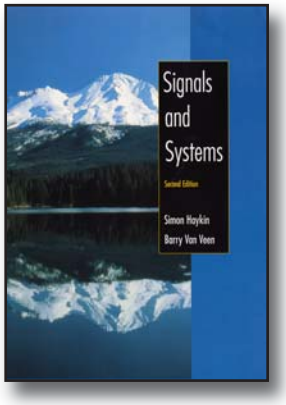


## Signals and Systems

2nd Edition

**S. HAYKIN, McMaster University**
**B. VON VEEN, University of Wisconsin.**

This book provides a balanced and integrated treatment of continuous-time and discrete-time forms of signals and systems intended to reflect their roles in engineering practice. This approach has the pedagogical advantage of helping the reader see the fundamental similarities and differences between discrete-time and continuous-time representations.

**Contents:** Introduction; Time-Domain Representations for Linear Time-Invariant Systems; Fourier Representations for Signals and Linear Time-Invariant Systems; Applications of Fourier Representations and Mixed Signal Classes; Application to Communication Systems; Representation of Signals Using Continuous-Time Complex Exponentials: The Laplace Transform; Representation of Signals Using Discrete-Time Complex Exponentials: the z-Transform; Application to Filters And Equalizers; Application to Feedback Systems; Epilogue.

**Supplements:** PowerPoint Slides; Instructor Solutions Manual; MATLAB Resources.

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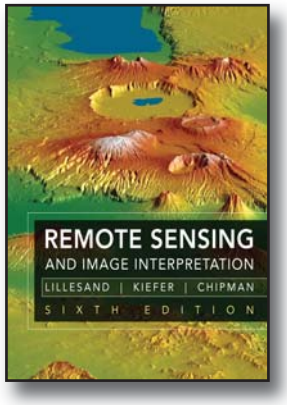


## Remote Sensing and Image Interpretation

6th Edition

**THOMAS M. LILLESAND, RALPH W. KIEFER, JONATHAN W. CHIPMAN, all of University of Wisconsin, Madison.**

Providing an exciting introduction to the field, this book covers the science of remote sensing from physical basis to sensors and applications. The new ***Sixth Edition*** not only offers the latest information, but also has been revised to make the material more accessible.

- This text provides expanded coverage of such topics as digital cameras, disaster assessment, and atmospheric and topographic radiometric correction.
- Stresses the dominant role of digital data collection and analysis (vs. analog).
- Examines Earth resource satellites operating in the optical spectrum.
- Discusses multispectral, thermal, and hyperspectral sensing.
- Includes updated images, line drawings and color plates.

**Contents:** 1. Concepts and Foundations of Remote Sensing. 2. Elements of Photographic Systems. 3. Basic Principles of Photogrammetry. 4. Introduction to Visual Image Interpretation. 5. Multispectral, Thermal and Hyperspectral Sensing. 6. Earth Resource Satellites Operating in the Opticak Spectrum. 7. Digital Image Interpretation and Analysis. 8. Microwave and Lidar Sensing. Appendix A Radiometric Concepts, Terminology and Units. Appendix B Remote Sensing Data and Information Resources. Appendix C Sample Coordinate Transformation and Resampling Procedures. Appendix D Radar Signal Concepts, Terminology and Units.

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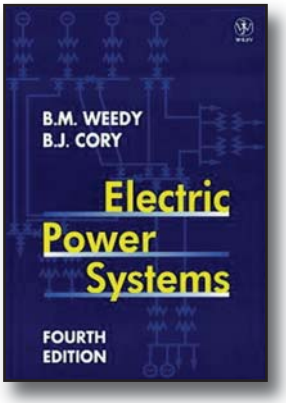


## Electric Power Systems

4th Edition

**B.M. WEEDY, University of Southampton**
**B. CORY, Imperial College of Science, Technology and Medicine.**

This edition provides a thorough account of power systems engineering and supplies the student with the essentials of the various aspects of modern power systems – generation, control, protection, operation, transmission and distribution. Major updates reflect changes following utility privatisation and the resulting impact on planning, operation and distribution.

**Contents:** Introduction to Power Systems; Basic Concepts; Components of a Power System; Control of Power and Frequency; Control of Voltage and Reactive Power; Load Flows; Fault Analysis; System Stability; Direct Current Transmission; Overvoltages and Insulation Coordination; Substations and Protection; Power System Economics and Management.

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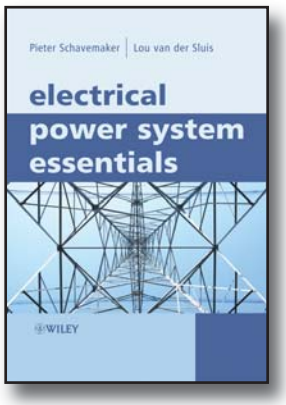


## Electrical Power System Essentials

**PIETER SCHAVEMAKER**
**LOU VAN DER SLUIS, both of Delft University of Technology.**

This book provides an accessible, broad and up-to-date overview of alternating current (AC) power systems, focusing on the system as a whole rather than analyzing in detail the modelling of component parts (as is the case in classical power engineering textbooks). Starting with a full introduction to the topic, setting out the basics for a steady-state analysis of three-phase power systems, the book goes on to pragmatically examine different aspects of the power system.

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## Principles of Electric Machines and Power Electronics

2nd Edition

**P.C. SEN, Queen's University, Kingston, Ontario.**

**Contents:** Magnetic Circuits; Transformers; Electromechanical Energy Conversion; DC Machines; Induction (Asynchronous) Machines; Synchronous Machines; Single-Phase Motors; Special Machines; Transients and Dynamics; Power Semiconductor Converters; Appendices; Index.

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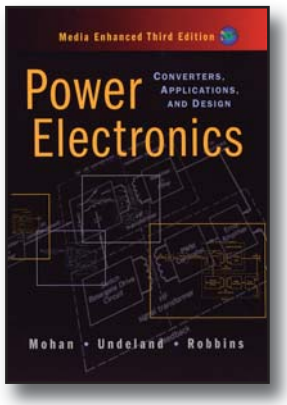


## Power Electronics

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3rd Edition

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**W. ROBBINS, both of University of Minnesota**
**T. UNDELAND, Norwegian Institute of Technology.**

Cohesive presentation of power electronics fundamentals for applications and design in the power range of 500 kW or less. Describes a variety of practical and emerging power electronic converters made feasible by the new generation of power semiconductor devices.

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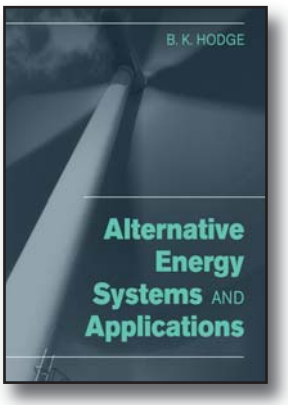


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## Alternative Energy Systems and Applications

**B.K. HODGE, Mississippi State University.**

### A quantitative approach to alternate energy sources and alternate applications of existing energy sources.

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- Alternative Energy Sources and Applications sections cover a wide range of topics. Engineers will learn how to apply these concepts to find new solutions.
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**Contents:** 1 Energy Usage in the United States. 2 Fundamentals of Turbomachinery. 3 Hydropower. 4 Wind Energy. 5 Combustion Turbines. 6 Solar Energy Fundamentals. 7 Active Solar Thermal. 8 Passive Solar Energy. 9 Photovoltaic Systems. 10 Fuel Cells. 11 Combined Heat and Power (CHP) Systems. 12 Biomass. 13 Geothermal Energy. 14 Ocean Energy. 15 Nuclear Energy.

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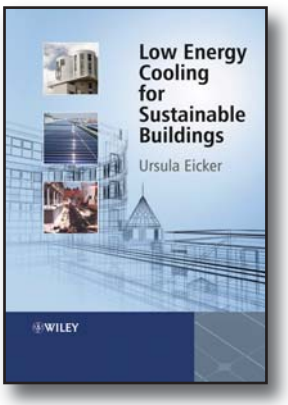


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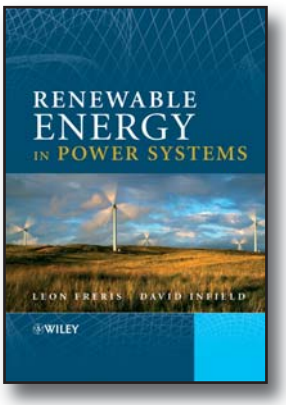


## Renewable Energy in Power Systems

**LEON FRERIS, Loughborough University**
**DAVID INFIELD**
**MURRAY THOMSON.**

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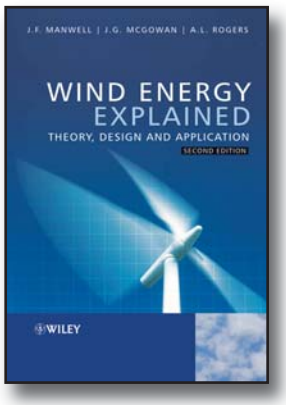


## Wind Energy Explained

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Fully revised, ***Wind Energy Explained, 2nd edition,*** builds on the highly successful 1st edition – now the leading textbook for wind energy degree courses. With two completely new chapters covering the fundamentals of Data Collection and Analysis and Computer codes and Wind Turbine Design and Testing, Manwell et al draw on substantial practical experience to provide a highly accessible introduction to the cross-disciplinary field of wind engineering. New sections have been added on the aerodynamics of vertical axis wind turbines, turbine testing, electrical grid-related issues and current and future applications of wind turbines.

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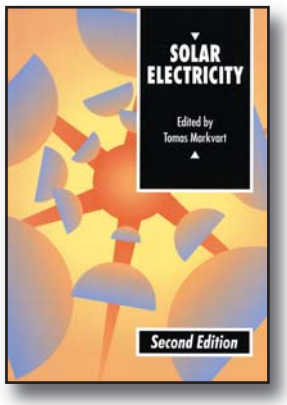


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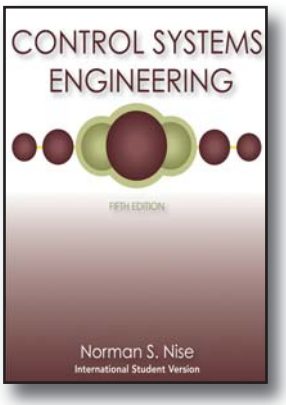


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## Control Systems Engineering

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**Resources:** WileyPLUS – an online course management system including the full online text and integrated resources.

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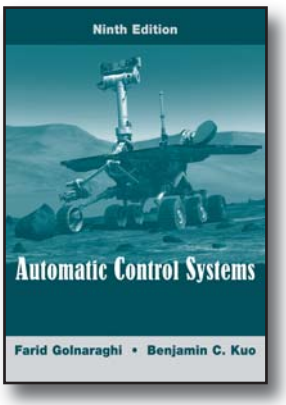


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## Automatic Control Systems

9th Edition

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**Contents:** 1 Introduction. 2 Theoretical Foundation And Background Material: Modeling Of Dynamical Systems. 3 Complex Variables, Differential Equations, Laplace Transform. 4 Block Diagrams, Signal Flow Graphs And State Diagrams. 5 Modeling Of Physical Systems: Mixed Systems. 6 Stability Of Linear Control Systems. 7 Time-Domain Analysis Of Control Systems. 8 Root Locus Techniques. 9 Frequency Response. 10 Design Of Control Systems: Time And Frequency Domain.

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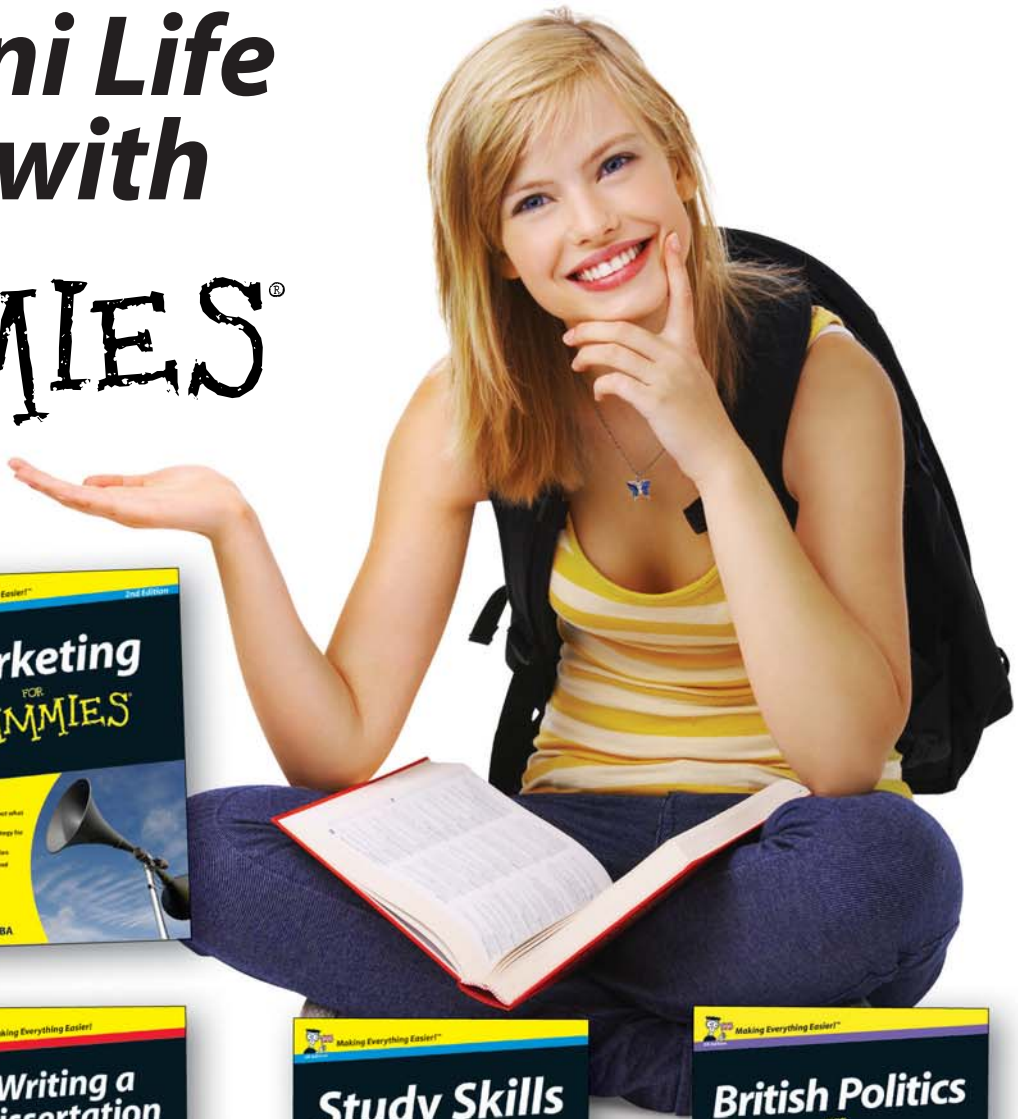

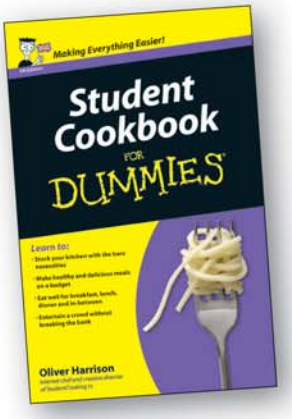


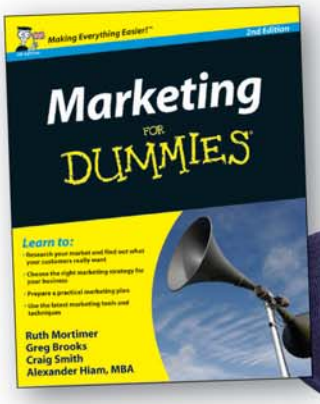


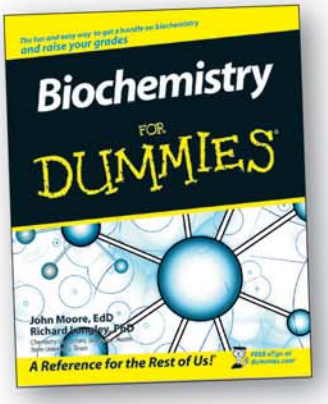


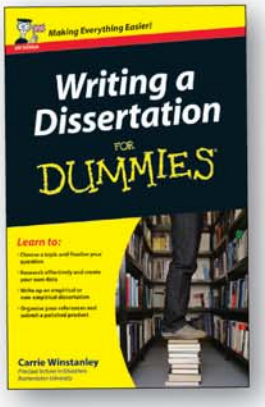


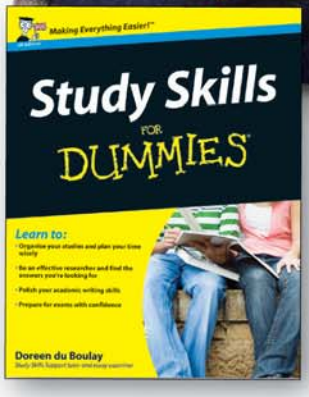



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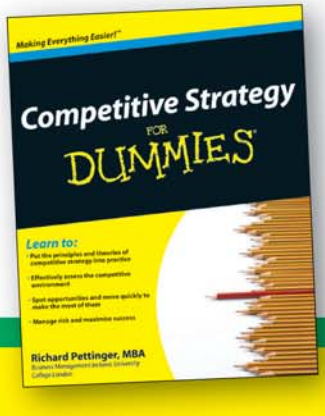


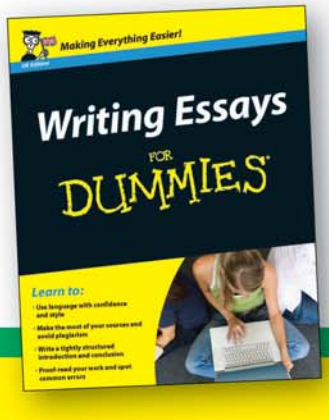


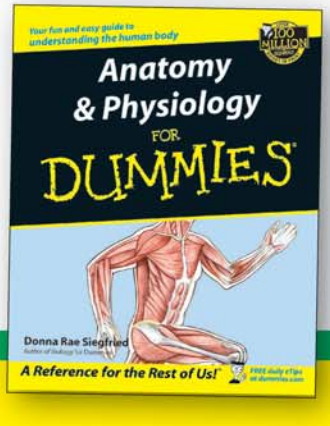


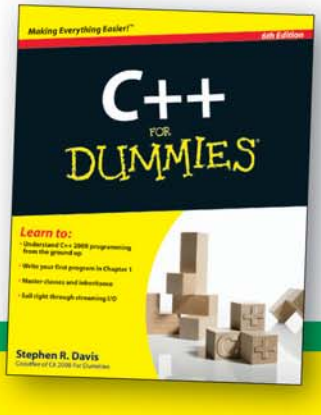


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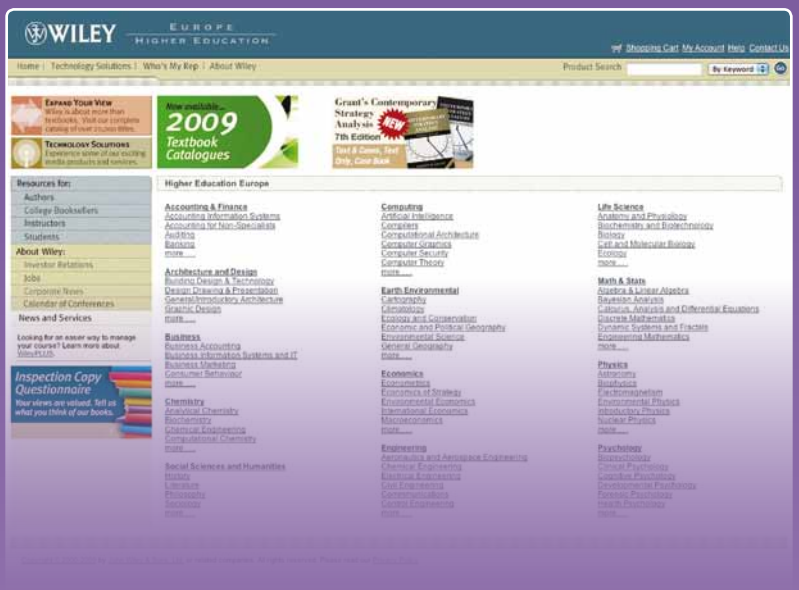


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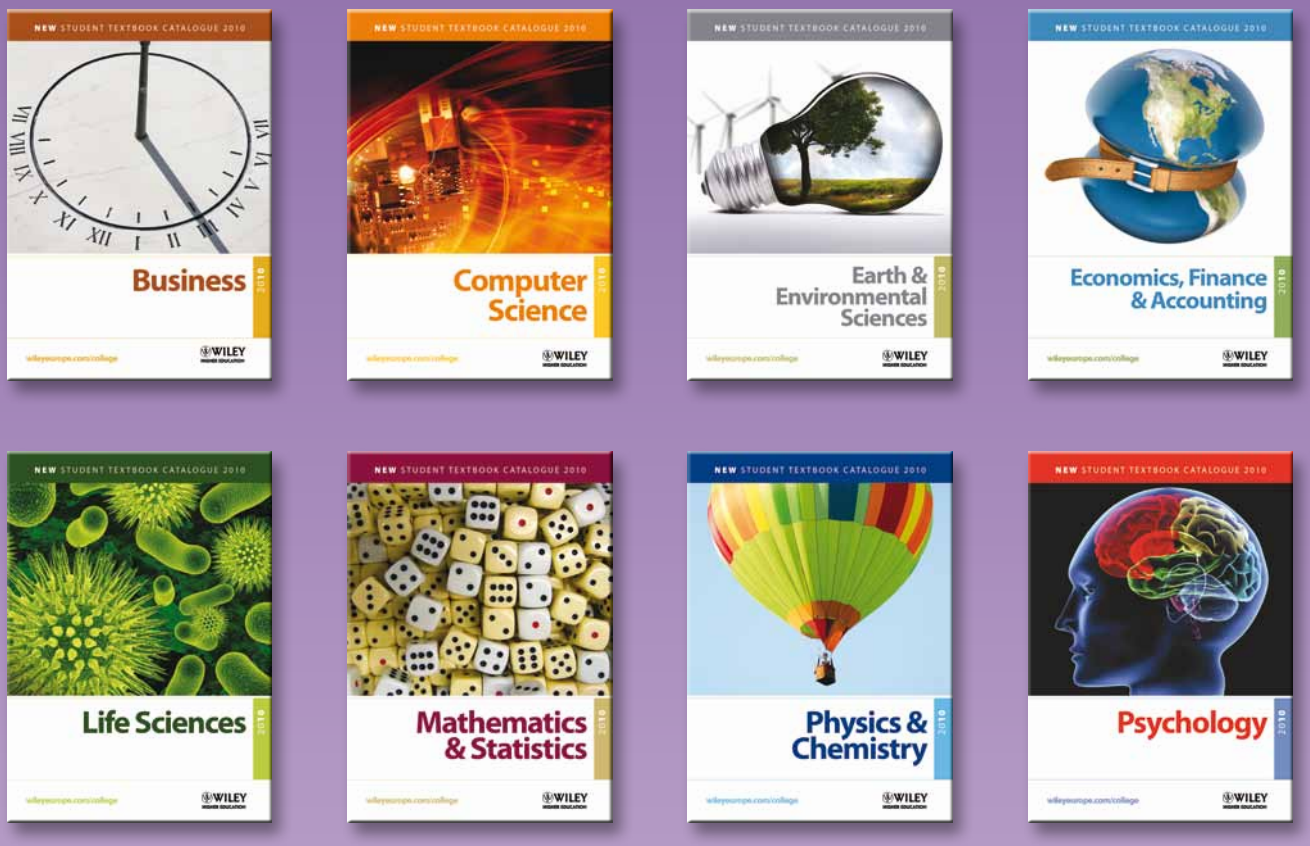


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