

■ ■ ■ ■ SPON PRESS

# Civil Engineering

Textbooks 2011



VIEW ANY  
**PRODUCT  
ONLINE**

BY CLICKING ON  
THE TITLE LISTING



Spon Press  
an imprint of Taylor & Francis

[www.sponpress.com](http://www.sponpress.com)



# Taylor & Francis Built Environment Books



Follow us on  
**twitter**

Follow us on Twitter at:  
[www.twitter.com/tandfbooks](http://www.twitter.com/tandfbooks)



Find us on Facebook at:  
[www.facebook.com/builtenvironmentbooks](http://www.facebook.com/builtenvironmentbooks)

# Civil Engineering

Textbooks 2011



Page 3



Page 5



Page 5



Page 7



Page 13



Page 17

## CONTENTS

Structural Engineering .....	2
Geotechnical Engineering .....	7
Hydraulic Engineering .....	12
Environmental Engineering .....	17
Management .....	18
Index .....	19
Order Form .....	Back of Catalog

You can now follow T&F Built Environment on



www.twitter.com/tandfbooks



www.facebook.com/builtenvironmentbooks



## CONTACTS

### MARKETING

*UK and Rest of World:*

**Samantha Whyte** – Marketing Executive  
Email: samantha.whyte@tandf.co.uk

*US, Canada and Latin America:*

**Fredrick Brantley** – Marketing Assistant  
Email: fredrick.brantley@taylorandfrancis.com

### EDITORIAL

**Tony Moore** – Senior Editor  
Email: tony.moore@tandf.co.uk

**Simon Bates** – Editor (Asia Pacific)  
Email: simon.bates@tandf.com.sg

### The Easy Way to Order

Ordering online is fast and efficient, simply follow the on-screen instructions. Alternatively, you can call, fax or see order form at the back of this catalog.

#### UK and Rest of World

Call: +44 (0)1235 400524  
Fax: +44 (0)20 7017 6699

#### US, Canada and Latin America

Call: 1-800-634-7064  
Fax: 1-800-248-4724

### eBooks

Over 20,000 of our titles are available as eBooks – available to browse at: [www.ebookstore.tandf.co.uk](http://www.ebookstore.tandf.co.uk).

### eUpdates

Register your email address at [www.tandf.co.uk/eupdates](http://www.tandf.co.uk/eupdates) to receive information on books, journals and other news within your area of interest.

## CONSIDERING BOOKS FOR COURSE USE?

Books marked with are available as complimentary exam copies for lecturers or faculty considering them for course adoption. To obtain your copy visit the URL listed beneath the title in the catalog and select your choice of print or electronic copy. Visit [www.routledge.com](http://www.routledge.com) or in the US you can call 1-800-634-7064.

Books marked with are available as electronic inspection copies only.

**NEW**

2nd Edition



## Reinforced and Prestressed Concrete Design to EC2

The Complete Process

**Eugene O'Brien**, University College, Dublin, Ireland, **Andrew Dixon**, Consulting Civil and Structural Engineer, Ireland and **Emma Sheils**, University College, Dublin, Ireland

Concrete is an integral part of twenty-first century structural engineering and an understanding of how to analyze and design concrete structures is a vital part of training as a structural engineer. With eurocode legislation increasingly replacing British Standards it's also important to know how this affects the way one can work with concrete. Newly revised for Eurocode 2, this second edition retains the original's emphasis on qualitative understanding of the overall behaviour of concrete structures. Now expanded, with a new chapter dedicated to case studies, worked examples and exercise examples it's an even more comprehensive guide to conceptual design, analysis and detailed design of concrete structures.

The book provides civil and structural engineering students with complete coverage of the analysis and design of reinforced and prestressed concrete structures. Great emphasis is placed on developing a qualitative understanding of the overall behaviour of structures.

**Selected Contents:** **Part 1: Structural Loading and Qualitative Design** 1. Fundamentals of Qualitative Design 2. Basic Layout of Concrete 3. Loads and Load Effects **Part 2: Preliminary Analysis and Design** 4. Fundamentals of Structural Analysis 5. Applications of Structural Analysis to Concrete Structures 6. Preliminary Sizing of Members 6A. Case Studies **Part 3: Detailed Member Design** 7. Design of Reinforced Concrete Members for Bending 8. Design of Prestressed Concrete Members for Bending Chapter 9. Combined Axial Force and Bending of Reinforced Concrete Members 10. Design for Shear and Torsion. Appendices

November 2011: 246 x 189: 544pp

Hb: 978-0-415-57194-4: **\$165.00** • Pb: 978-0-415-57195-1: **\$59.95**For more information, visit: [www.routledge.com/9780415571951](http://www.routledge.com/9780415571951)**NEW**

## Structural Mechanics Fundamentals

**Alberto Carpinteri**, Turin Polytechnic, Italy

This book gives you a complete and uniform treatment of the most fundamental and essential topics in structural mechanics. Presenting a traditional subject in an updated and modernized way, this book merges classical topics with ones that have taken shape in more recent times, such as:

- duality
- kinematics and statics of rigid body systems
- determination of constraint reactions
- internal beam reactions
- statically determinate beam systems
- analysis of strain and stress
- theory of elasticity
- the Saint Venant problem
- beams and plates in flexure
- statically indeterminate beam systems: method of forces
- energy methods for the solution of beam systems.

Structural Mechanics Fundamentals can be used as a text for final year undergraduate or graduate students in structural engineering or even by some architecture students and also serves as a useful reference for practising engineers and researchers.

**Selected Contents:** 1. Introduction 2. Geometry of Areas 3. Kinematics and Statics of Rigid Body Systems 4. Determination of Constraint Reactions 5. Internal Beam Reactions 6. Statically Determinate Beam Systems 7. Analysis of Strain and Stress 8. Theory of Elasticity 9. The Saint Venant Problem 10. Beams and Plates in Flexure 11. Statically Indeterminate Beam Systems: Method of Forces 12. Energy Methods for the Solution of Beam Systems. **Appendices**  
A. Calculation of the Internal Reactions in a Circular Arch Subjected to a Radial Hydrostatic Load B. Calculation of the Internal Reactions in a Circular Arch Subjected to a Uniformly Distributed Vertical Load C. Anisotropic Material D. Heterogeneous Beam E. Heterogeneous Plate F. Finite Difference Method G. Torsion of Multiply-Connected Thin-Walled Cross-Sections

December 2011: 246 x 174: 464pp

Hb: 978-0-415-58031-1: **\$200.00** • Pb: 978-0-415-58032-8: **\$70.00**For more information, visit: [www.routledge.com/9780415580328](http://www.routledge.com/9780415580328)

Complimentary Exam Copy



e-Inspection



Companion Website

**BESTSELLER**

6th Edition

**Structural Analysis**

A Unified Classical and Matrix Approach

**Amin Ghali**, University of Calgary, Canada,  
**Adam Neville**, Consultant Civil Engineer, UK and  
**Tom G. Brown**, University of Calgary, Canada



This comprehensive textbook, now in its sixth edition, combines classical and matrix-based methods of structural analysis and develops them concurrently. New solved examples and problems have been added, giving over 140 worked examples and more than 400 problems with answers.

Translated into six languages, this textbook is of considerable international renown, and is widely recommended by many civil and structural engineering lecturers to their students because of its clear and thorough style and content.

2009: 246 x 189: 864pp  
 Hb: 978-0-415-77432-1: **\$180.00**  
 Pb: 978-0-415-77433-8: **\$74.95**

For more information, visit:  
[www.routledge.com/9780415774338](http://www.routledge.com/9780415774338)

**BESTSELLER**

3rd Edition

**Design of Structural Elements**

Concrete, Steelwork, Masonry and Timber Designs to British Standards and Eurocodes

**Chanakya Arya**, University College London, UK



This popular textbook provides a concise introduction to the design of structural elements in concrete, steel, timber, masonry and composites. Up to date design principles and guidance are given in line with both British Standards and Eurocodes, current as of late 2007. An accompanying solutions manual is available online.

2009: 246 x 189: 528pp  
 Hb: 978-0-415-46719-3: **\$135.00**  
 Pb: 978-0-415-46720-9: **\$54.95**  
 eBook: 978-0-203-92650-5

For more information, visit:  
[www.routledge.com/9780415467209](http://www.routledge.com/9780415467209)

**Full Table of Contents**

For full table of contents on all titles featured in this catalog, visit:

[www.sponpress.com](http://www.sponpress.com)

**Seeing and Touching Structural Concepts**

**Tianjian Ji** and **Adrian Bell**

Following on from and expanding upon the website, comes this book. Essential for the civil engineering student, it examines the concepts in closer detail with formulae and technical terminology, while remaining grounded in the website's practical approach. With hundreds of photographs and diagrams, you are encouraged to visualize each concept in turn and to understand how it applies to everyday life.

2008: 246 x 174: 288pp  
 Hb: 978-0-415-39773-5: **\$150.00**  
 Pb: 978-0-415-39774-2: **\$59.95**  
 eBook: 978-0-203-96079-0

For more information, visit:  
[www.routledge.com/9780415397742](http://www.routledge.com/9780415397742)

**Structural and Stress Analysis**

Theories, Tutorials and Examples

**Jianqiao Ye**

2008: 246 x 174: 232pp  
 Hb: 978-0-415-36865-0: **\$160.00**  
 Pb: 978-0-415-36879-7: **\$64.95**  
 eBook: 978-0-203-02900-8

For more information, visit:  
[www.routledge.com/9780415368797](http://www.routledge.com/9780415368797)



## Structures

From Theory to Practice

**Alan Jennings**

Using aspects of structural behaviour, good design practice and effective computational techniques to illustrate the importance of the fundamental theoretical concepts presented, this book provides a comprehensive introduction to the analysis and design of structures.

With a broad range of worked examples, questions and references to further reading, *Structures* is the ideal course text for entry-level students on degree, HNC and HND courses.

**Selected Contents:** 1. Rigid Body Mechanics 2. Gravity Structures 3. Internal Forces 4. Beams 5. Trusses 6. Linear Elastic Behaviour 7. Stability 8. Energy Concepts 9. Ultimate Behaviour

2004: 234 x 156: 640pp  
Hb: 978-0-415-26842-4: **\$240.00** • Pb: 978-0-415-26843-1: **\$60.95**  
eBook: 978-0-203-49702-9

For more information, visit: [www.routledge.com/9780415268431](http://www.routledge.com/9780415268431)

4th Edition

## The Behaviour and Design of Steel Structures to EC3

**N.S. Trahair, M.A. Bradford, David Nethercot and Leroy Gardner**

This key text for senior undergraduate and graduate students is also an essential reference tool for practising structural engineers.

**Selected Contents:** 1. Introduction 2. Tension Members 3. Compression Members 4. Local Buckling of Thin Plate Elements 5. In-Plane Bending of Beams 6. Lateral Buckling of Beams 7. Beam-Columns 8. Frames 9. Joints 10. Torsion Members

2007: 234 x 156: 512pp  
Hb: 978-0-415-41865-2: **\$200.00** • Pb: 978-0-415-41866-9: **\$70.00**  
eBook: 978-0-203-93593-4

For more information, visit: [www.routledge.com/9780415418669](http://www.routledge.com/9780415418669)



**NEW**

## Concrete Durability

**Thomas Dyer**, University of Dundee, UK

As more importance is being placed on the whole-life performance of structures, demand is growing for long service lives with minimal maintenance requirements. Over the past decade the introduction across Europe of new standards has drawn more attention to the issue of the durability of concrete structures. Thus, the durability of construction materials is of more concern to civil engineers than ever before.

This book examines each of the major physical and chemical mechanisms which threaten the durability of concrete and addresses the options available for achieving appropriate durability, with emphasis on the approaches addressed by standards. It also covers procedures for durability assessment and testing of structures, and repair and rehabilitation methods. It is has been written with an audience of graduate students and young professionals in mind.

**Selected Contents:** 1. Introduction 2. Physical Mechanisms of Concrete Degradation 3. Chemical Mechanisms of Concrete Degradation 4. Corrosion of Steel Reinforcement in Concrete 5. Design of Durable Concrete Structures 6. Construction of Durable Concrete Structures 7. Serviceability, Repair and Maintenance of Concrete Structures

November 2011: 234 x 156: 320pp  
Hb: 978-0-415-56475-5: **\$100.00**

For more information, visit: [www.routledge.com/9780415564755](http://www.routledge.com/9780415564755)



3rd Edition

## Steel Structures

Practical Design Studies

**Hassan Al Nageim and T.J. MacGinley**

2005: 234 x 156: 352pp  
Hb: 978-0-415-30156-5: **\$230.00** • Pb: 978-0-415-30157-2: **\$74.95**  
eBook: 978-0-203-96597-9

For more information, visit: [www.routledge.com/9780415301572](http://www.routledge.com/9780415301572)



Complimentary Exam Copy



e-Inspection



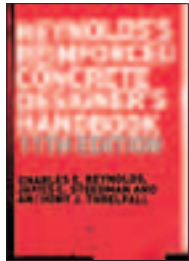
Companion Website

**BESTSELLER**

11th Edition

## Reynolds's Reinforced Concrete Designer's Handbook

Charles E. Reynolds, James C. Steedman and Anthony J. Threlfall



This classic and essential work has been thoroughly revised and updated in line with the requirements of new codes and standards which have been introduced in recent years, including the new Eurocode as well as up-to-date British Standards.

2007: 297 x 210: 416pp  
 Hb: 978-0-419-25820-9: **\$180.00**  
 Pb: 978-0-419-25830-8: **\$74.95**  
 eBook: 978-0-203-08775-6

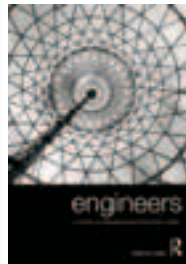
For more information, visit:  
[www.routledge.com/9780419258308](http://www.routledge.com/9780419258308)



## Engineers

A History of Engineering and Structural Design

Matthew Wells, Techniker, London, UK



This innovative new book presents the vast historical sweep of engineering innovation and technological change to describe and illustrate engineering design and what conditions, events, cultural climates and personalities have brought it to its present state.

**Selected Contents:** 1. Prehistory and Ancient Times 2. Rome and the East (220 BC–533 AD) 3. Byzantium and the European Dark Ages

(476–1000) 4. Light (1000–1600) 5. Galileo Galilei (1564–1642) 6. Enlightenment (1580–1789) 7. Encyclopaedia (1750–1860) 8. The American Reconstruction (1860–1890) 9. Classical Analysis and Reinforced Concrete (1890–1920) 10. Flight and the World Wars (1900–1950) 11. Early Contemporaries (1945–1960) 12. The Continual Present (1950–2000)

2010: 246 x 174: 256pp  
 Hb: 978-0-415-32525-7: **\$165.00**  
 Pb: 978-0-415-32526-4: **\$39.95**  
 eBook: 978-0-203-35818-4

For more information, visit:  
[www.routledge.com/9780415325264](http://www.routledge.com/9780415325264)



3rd Edition

## Reinforced Concrete

Design Theory and Examples

Prab Bhatt, T.J. MacGinley and Ban Seng Choo

The third edition of this popular textbook has been extensively re-written and expanded to conform to the latest versions of BS8110 and EC2. Including more than sixty design examples and over 600 diagrams, it sets out design theory for concrete elements and structures, and illustrates practical applications of the theory. A must for students on civil engineering degree courses.

2005: 234 x 156: 720pp  
 Hb: 978-0-415-30795-6: **\$230.00**  
 Pb: 978-0-415-30796-3: **\$74.95**  
 eBook: 978-0-203-40438-6

For more information, visit:  
[www.routledge.com/9780415307963](http://www.routledge.com/9780415307963)

**Order Yours Today!**

For simple and secure online ordering,  
 please visit [www.sponpress.com](http://www.sponpress.com)

Or use the order form at the back  
 of this catalog.



**BESTSELLER**

4th Edition

## Construction Materials

Their Nature and Behaviour

Edited by **Peter Domone**, University College London, UK and  
**John Illston**, Retired Engineer, UK



**'A broad-based, yet sufficiently deep materials book to cover most undergraduate materials needs.'** – *Lecturer in Construction Materials, Kingston University, UK*

So far in the twenty-first century, there have been many developments in our understanding of materials' behaviour and in their technology and use. This new edition has been expanded to cover recent developments such as the use of glass as a structural material. It also now examines the contribution that material selection makes to sustainable construction practice, considering the availability of raw materials, production, recycling and reuse, which all contribute to the life cycle assessment of

structures. As well as being brought up-to-date with current usage and performance standards, each section now also contains an extra chapter on recycling.

This new edition maintains our familiar and accessible format, starting with fundamental principles and continuing with a section on each of the major groups of materials. It gives you a clear and comprehensive perspective on the whole range of materials used in modern construction. A must have for Civil and Structural engineering students, and for students of architecture, surveying or construction on courses which require an understanding of materials.

**Selected Contents:** Part 1: Fundamentals Part 2: Metals and Alloys Part 3: Concrete Part 4: Bituminous Materials Part 5: Masonry: Brickwork and Blockwork Part 6: Glass Part 7: Polymers Part 8: Fibre Composites Part 9: Timber Part 10: Selection, Use and Sustainability Issues

2010: 246 x 189: 584pp

Hb: 978-0-415-46515-1: **\$160.00** • Pb: 978-0-415-46516-8: **\$62.95**

eBook: 978-0-203-92757-1

For more information, visit: [www.routledge.com/9780415465151](http://www.routledge.com/9780415465151)

## Structural Optimization

Dynamic and Seismic Applications

Franklin Y. Cheng, Missouri University of Science and Technology, USA and  
Kevin Z. Truman, University of Missouri, USA

Series: *Structural Engineering: Mechanics and Design*



Today's biggest structural engineering challenge is to design better structures, and a key issue is the need to take an integrated approach which balances control of costs with the requirement for handling earthquakes and other dynamic forces. Structural optimization is based on rigorous mathematical formulation and requires computation algorithms for sizing structural elements and synthesizing systems. Now that the right software and enough computing power are readily available, professionals can now develop a suite of alternative designs and a select suitable one.

A thoroughly-written and practical book on structural optimization is long overdue. This solid book comprehensively presents current optimization strategies, illustrated with sufficient

examples of the design of elements and systems and presenting descriptions of the process and results. Emphasis is given to dynamic loading, in particular to seismic forces.

Researchers and practising engineers will find this book an excellent reference, and advanced undergraduates or graduate students can use it as a resource for structural optimization design.

**Selected Contents:** 1. Introduction to Structural Optimization 2. Fundamentals of Linear Programming 3. Linear Programming Optimization of Elastic Structural Systems 4. Introduction to Nonlinear Programming 5. Optimization of Rigid Frames 6. Gradient Based Search Techniques 7. Energy Distribution for Optimality Criterion 8. Generalized Optimality Criteria Approach 9. Generalized Optimality Criteria Applied to Statically and Dynamically Loaded Structural Systems 10. Generalized Optimality Criteria Techniques 11. Nondeterministic Structural Optimization and Parametric Assessments 12. Multiobjective Optimization with Genetic Algorithm, Fuzzy Logic and Game Theory. Appendices

2010: 234 x 156: 728pp

Hb: 978-0-415-42370-0: **\$160.00** • eBook: 978-0-203-08965-1For more information, visit: [www.routledge.com/9780415423700](http://www.routledge.com/9780415423700)

Complimentary Exam Copy



e-Inspection



Companion Website

## Introduction to Tunnel Construction

David Chapman and Nicole Metje both at University of Birmingham, UK and Alfred Stärk, Beton- und Monierbau GmbH, Austria



Tunnelling provides a robust solution to a variety of engineering challenges. It is a complex process, which requires a firm understanding of the ground conditions as well as structural issues. This book covers the whole range of areas which you need to know in order to embark upon a career in tunnelling. It also includes a number of case studies of real tunnel projects, to demonstrate how the theory applies in practice.

The coverage includes:

- both hard rock and soft ground conditions
- site investigation, parameter selection and design considerations
- methods of improving the stability of the ground and lining techniques
- descriptions of the various tunnelling techniques
- health and safety considerations
- monitoring of tunnels during construction.

Clear, concise and heavily illustrated, this is a vital text for final year undergraduate and MSc students and an invaluable starting point for young professionals.

**Selected Contents:** 1. Introduction to Tunnelling 2. Site Investigation and Laboratory and Field Testing 3. Tunnelling Techniques 4. Tunnelling Design Issues 5. Modelling 6. Monitoring 7. Case Studies 8. Summary of Key Aspects 9. Bibliography

2010: 246 x 174: 416pp  
Hb: 978-0-415-46841-1: **\$160.00** • Pb: 978-0-415-46842-8: **\$74.95**  
eBook: 978-0-203-89515-3

For more information, visit: [www.routledge.com/9780415468428](http://www.routledge.com/9780415468428)



2nd Edition

## Soil Mechanics

Concepts and Applications

William Powrie

2004: 246 x 174: 704pp  
Hb: 978-0-415-31155-7: **\$230.00** • Pb: 978-0-415-31156-4: **\$69.95**  
For more information, visit: [www.routledge.com/9780415311564](http://www.routledge.com/9780415311564)



## Problem Solving in Soil Mechanics

A. Aysen

2004: 246 x 174: 195pp  
Pb: 978-0-415-38392-9: **\$43.95**

For more information, visit: [www.routledge.com/9780415383929](http://www.routledge.com/9780415383929)



4th Edition

## Rock Slope Engineering

Duncan C. Wyllie and Chris Mah

2004: 246 x 189: 456pp  
Hb: 978-0-415-28000-6: **\$260.00** • Pb: 978-0-415-28001-3: **\$89.95**

For more information, visit: [www.routledge.com/9780415280013](http://www.routledge.com/9780415280013)



## FORTHCOMING IN 2012

8th Edition

### Craig's Soil Mechanics

**R.F. Craig** and **Jonathan Knappett** both at University of Dundee, UK

This eighth edition of *Craig's Soil Mechanics*, presents the fundamental principles of soil mechanics and illustrates how they are applied in practical situations. Worked examples throughout the book reinforce the explanations and a range of problems for the reader to solve provide further learning opportunities.

**Selected Contents:** 1. Basic Characteristics of Soils 2. Seepage 3. Effective Stress 4. Shear Strength 5. Stresses and Displacements 6. Lateral Earth Pressure 7. Consolidation Theory 8. Foundation Design 9. Stability of Slopes 10. Ground Investigation 11. In-situ Testing 12. Case Studies

February 2012: 246 x 189: 464pp  
Hb: 978-0-415-56125-9: **£135.00**  
Pb: 978-0-415-56126-6: **\$59.95**

For more information, visit:  
[www.routledge.com/9780415561266](http://www.routledge.com/9780415561266)



## FORTHCOMING IN 2012

8th Edition

### Craig's Soil Mechanics: Solutions Manual

**R. F. Craig** and **Jonathan Knappett** both at University of Dundee, UK

This manual contains the complete illustrated solutions to all the problems in the eighth edition of *Craig's Soil Mechanics*.

February 2012: 246 x 189: 96pp  
Pb: 978-0-415-62064-2: **£37.95**

For more information, visit:  
[www.routledge.com/9780415620642](http://www.routledge.com/9780415620642)

## Geotechnical Modelling

**David Muir Wood**

Assuming a familiarity with basic soil mechanics and traditional methods of geotechnical design, this book is a valuable tool for students of geotechnical and structural and civil engineering as well as also being useful to practising engineers involved in the specification of numerical or physical geotechnical modelling.

2004: 234 x 156: 504pp  
Hb: 978-0-415-34304-6: **£210.00**  
eBook: 978-0-203-47797-7

For more information, visit:  
[www.routledge.com/9780415343046](http://www.routledge.com/9780415343046)



## In Situ Testing in Geomechanics

The Main Tests

**Fernando Schnaid**



- Standard Penetration Tests
- Cone Penetration Tests
- Vane Test
- Pressuremeter Tests
- Dilatometer Tests

Fernando Schnaid takes each of these tests in turn, showing how and when to use them. The tests are illustrated with nearly 200 figures and photographs, as well as real examples from companies

including A.P. van den Berg and Fugro Ltd.

Ideal for practising engineers in the fields of Geomechanics and Environmental Engineering, this book solves numerous common problems in site characterization. Also a helpful guide for students coming to the end of their engineering courses and looking to work in this sector.

2008: 234 x 156: 352pp  
Hb: 978-0-415-43385-3: **£160.00**  
Pb: 978-0-415-43386-0: **\$59.95**  
eBooks: 978-0-203-93133-2

For more information, visit:  
[www.routledge.com/9780415433853](http://www.routledge.com/9780415433853)



*Want more  
information on a book?*

*Visit the direct URL found at the  
bottom of the title description.*



Complimentary Exam Copy



e-Inspection



Companion Website

**NEW**

## Practical Engineering Geology

**Steve Hencher**, University of Leeds, UK

Emphasizing the link between engineering geology and geotechnical engineering, Steve Hencher takes a broad and fresh view of the tasks faced by engineering geologists. He outlines the fundamental role of engineering geology in civil engineering projects and assesses the various tools which an engineering geologist brings to such a project.

This book covers a range of roles and challenges which face an engineering geologist including:

- outlines of engineering geology models
- site investigation and testing
- geotechnical parameters and basic design
- dealing with hazards
- avoiding unexpected ground conditions.

Illustrated with a number of case studies and providing reference tables of parameters and properties. This reference is ideal for practising engineering geologists and MSc level students of engineering geology.

**Selected Contents:** 1. Introduction 2. Engineering Geology and Geotechnical Engineering 3. Models 4. Site Investigation 5. Geotechnical Parameters 6. Design 7. Acceptable Hazards and Risks 8. Case Studies 9. Unexpected Ground Conditions and How to Avoid Them 10. Conclusions 11. References and Bibliography

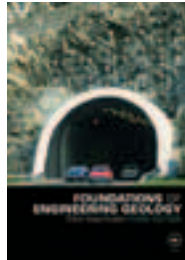
October 2011: 246 x 189: 400pp  
Hb: 978-0-415-46908-1: **\$200.00**  
Pb: 978-0-415-46909-8: **\$79.95**

For more information, visit:  
[www.routledge.com/9780415469098](http://www.routledge.com/9780415469098)

**BESTSELLER**

3rd Edition

## Foundations of Engineering Geology

**Tony Waltham**, retired from Nottingham Trent University, UK

Now in full colour, the third edition of this well established book provides a readable and highly illustrated overview of the aspects of geology that are most significant to civil engineers.

Sections in the book include those devoted to the main rock types, weathering, ground investigation, rock mass strength, failures of old mines, subsidence on peats and clays, sinkholes on limestone and chalk, water in landslides, slope stabilization and understanding ground conditions. The roles of both natural and man-induced processes are assessed, and this understanding is developed into an appreciation of the geological environments potentially hazardous to civil engineering and construction projects. For each style of difficult ground, available techniques of site investigation and remediation are reviewed and evaluated.

Each topic is presented as a double page spread with a careful mix of text and diagrams, with tabulated reference material on parameters such as bearing strength of soils and rocks. This new edition has been comprehensively updated and covers the entire spectrum of topics of interest for

both students and practitioners in the field of civil engineering.

**Selected Contents:** 1. Geology 2. Igneous Rocks 3. Surface Processes 4. Sedimentary Rocks 5. Metamorphic Rocks 6. Geological Structures 7. Geological Maps 8. Map Interpretation 9. Tectonics 10. Boundary Hazards 11. Rocks of Britain 12. Rocks of the US 13. Weathering and Soils 14. Floodplains and Alluvium 15. Glacial Deposits 16. Climatic Variants 17. Coastal Processes 18. Groundwater 19. Ground Investigation 20. Desk Study 21. Ground Investigation Boreholes 22. Geophysical Surveys 23. Assessment of Difficult Ground 24. Rock Strength 25. Rock Mass Strength 26. Soil Strength 27. Ground Subsidence 28. Subsidence on Clays 29. Subsidence on Limestone 30. Subsidence Over Old Mines 31. Mining Subsidence 32. Slope Failure and Landslides 33. Water in Landslides 34. Soil Failures and Flowslides 35. Landslide Hazards 36. Slope Stabilization 37. Ground Conditions 38. Rock Excavation 39. Tunnels in Rock 40. Stone and Aggregate. Appendices. Rock Mass Quality Q System. Abbreviations and Notation. Further Reading. Index

2009: 297 x 210: 104pp  
Hb: 978-0-415-46959-3: **\$135.00** • Pb: 978-0-415-46960-9: **\$31.95** • eBook: 978-0-203-89453-8  
For more information, visit: [www.routledge.com/9780415469609](http://www.routledge.com/9780415469609)

**BESTSELLER**

## Advanced Soil Mechanics

Braja M. Das



This revised and updated third edition presents a step-by-step guide to all aspects of the subject and addresses a wide range of topics in a logical and extensively illustrated approach, along with examples, problems and extensive equations.

**Selected Contents:** 1. Soil Aggregate, Plasticity, and Classification 2. Stresses and Strains – Elastic Equilibrium 3. Stresses and Displacements in a Soil Mass 4. Pore Water Pressure Due to Undrained Loading 5. Permeability and Seepage 6. Consolidation 7. Shear Strength of Soils 8. Settlement of Shallow Foundations

2008: 234 x 156: 600pp

Hb: 978-0-415-42026-6: **\$99.95** • eBook: 978-0-203-93584-2For more information, visit: [www.routledge.com/9780415420266](http://www.routledge.com/9780415420266)

2nd Edition

## The Mechanics of Soils and Foundations

John Atkinson

An update of the hugely useful first edition, this textbook sets out the basic theories of soil mechanics in a clear and straightforward way; combining both classical and critical state theories, and suited to students and also practising geotechnical engineers.

2007: 246 x 174: 480pp

Hb: 978-0-415-36255-9: **\$150.00** • Pb: 978-0-415-36256-6: **\$55.95**

eBook: 978-0-203-01288-8

For more information, visit: [www.routledge.com/9780415362566](http://www.routledge.com/9780415362566)**BESTSELLER**

## Introductory Geotechnical Engineering

An Environmental Perspective

Hsai-Yang Fang and John L. Daniels



Integrating and blending traditional theory with particle-energy-field theory, this book provides a framework for the analysis of soil behaviour under varied environmental conditions. Students of civil, geotechnical and environmental engineering and practitioners unfamiliar with the particle-energy-field concept, will find that this book's novel approach helps to clarify the complex theory behind geotechnics.

2006: 246 x 174: 576pp

Hb: 978-0-415-30401-6: **\$240.00** • Pb: 978-0-415-30402-3: **\$64.95**For more information, visit: [www.routledge.com/9780415304023](http://www.routledge.com/9780415304023)

## An Introduction to Geotechnical Processes

John Woodward

2005: 297 x 210: 136pp

Hb: 978-0-415-28645-9: **\$114.95** • Pb: 978-0-415-28646-6: **\$47.95**

eBook: 978-0-203-50488-8

For more information, visit: [www.routledge.com/9780415286466](http://www.routledge.com/9780415286466)

Complimentary Exam Copy



e-Inspection



Companion Website

2nd Edition

## Geochemistry, Groundwater and Pollution

C.A.J. Appelo and Dieke Postma

2005: 246 x 174: 683pp

Hb: 978-0-415-36421-8: **\$131.95** • Pb: 978-0-415-36428-7: **\$53.95**For more information, visit: [www.routledge.com/9780415364287](http://www.routledge.com/9780415364287)**NEW**

## Soil Mechanics Fundamentals

Isao Ishibashi, Old Dominion University, USA and Hemanta Hazarika, Kyushu University, Japan



Comprehensive and introductory, this textbook covers all basic fundamental concepts of soil mechanics. It delineates how soil behaves, why it behaves that way, and the engineering significance of such behavior. The text clearly explains these concepts based on mathematics, physics, and chemistry in simple but comprehensive ways. The authors include essential engineering equations to emphasize the importance of fundamentals, and 180 problems and solutions to aid with application. A solutions manual and PowerPoint slides are available with qualifying course adoption.

2010: 235 x 156: 342pp

Hb: 978-1-4398-4644-5: **\$79.95**For more information, visit: [www.routledge.com/9781439846445](http://www.routledge.com/9781439846445)**NEW**

## Offshore Geotechnical Engineering

Mark Randolph and Susan Gourvenec both at University of Western Australia, Perth, Australia



Design practice in offshore geotechnical engineering has grown out of onshore practice, but the two application areas have tended to diverge over the last thirty years, driven partly by the scale of the foundation and anchoring elements used offshore, and partly by fundamental differences in construction and installation techniques. As a consequence offshore geotechnical engineering has grown as a speciality.

The structure of *Offshore Geotechnical Engineering* follows a pattern that mimics the flow of a typical offshore project. In the early chapters it provides a brief overview of the marine environment, offshore site investigation techniques and interpretation of soil behaviour. It proceeds to cover

geotechnical design of piled foundations, shallow foundations and anchoring systems. Three topics are then covered which require a more multi-disciplinary approach: the design of mobile drilling rigs, pipelines and geohazards.

This book serves as a framework for undergraduate and postgraduate courses, and will appeal to professional engineers specialising in the offshore industry.

**Selected Contents:** 1. Introduction 2. The Offshore Environment 3. Offshore Site Investigation 4. Soil Behaviour 5. Piled Foundations 6. Shallow Foundations 7. Anchoring Systems 8. Mobile Drilling Rigs 9. Pipeline and Riser Geotechnics 10. Geohazards

March 2011: 246 x 174: 550pp

Hb: 978-0-415-47744-4: **\$140.00** • eBook: 978-0-203-88909-1For more information, visit: [www.routledge.com/9780415477444](http://www.routledge.com/9780415477444)

**BESTSELLER**

4th Edition

**Hydrology in Practice**

**Elizabeth M. Shaw**, retired lecturer, **Keith J. Beven** and **Nick A. Chappell** both at Lancaster University, UK and **Rob Lamb**, JBA Consulting, UK



*Hydrology in Practice* is an excellent and very successful introductory text for engineering hydrology students who go on to be practitioners in consultancies, the Environment Agency and elsewhere. It has never been superseded by any other text in this respect.

This fourth edition of *Hydrology in Practice* while retaining all that is excellent about its predecessor, by Elizabeth M. Shaw, replaces the material on the Flood Studies Report with an equivalent section on the methods of the Flood Estimation Handbook and its revisions. Other completely revised sections on instrumentation and modelling reflect the many changes that have occurred over recent years. The updated text has taken advantage of the extensive practical experience of the staff of JBA Consulting who use the methods described on a day-to-day basis. Topical case studies further enhance the text and the way in which students at undergraduate and MSc level can relate to it. The fourth edition will also have a wider appeal outside the UK by including new material on hydrological processes which also relate to

courses in geography and environmental science departments. In this respect the book draws on the expertise of Keith J. Beven and Nick A. Chappell who have extensive experience of field hydrological studies in a variety of different environments, and teaching undergraduate hydrology courses for many years.

Second and final year undergraduates (and MSc) students of hydrology in Engineering, Environmental Science and Geography departments across the globe, as well as professionals in environmental protection agencies and consultancies, will find this book invaluable. It is likely to be the course text for every undergraduate/MSc hydrology course in the UK and in many cases overseas too.

**Selected Contents:** 1. The Hydrological Cycle, Hydrometeorology and Climate **Part 1: Hydrological Measurements** 2. Hydrometric Networks and Data-Logging 3. Precipitation 4. Evapotranspiration 5. Infiltration, Moisture and Groundwater 6. Hillslope Runoff Processes 7. River Flow 8. Water Quality **Part 2: Hydrological Analysis and Modelling** 9. Precipitation Analysis 10. Evapotranspiration Calculations 11. River Flow Analysis 12. Catchment Modelling 13. Flood Routing 14. Groundwater Models **Part 3: Applications** 15. Flood Mapping 16. Flood Risk Management 17. Water Resources 18. Urban 19. River Basin Management

2010: 246 x 174: 560pp  
Hb: 978-0-415-37041-7: **\$160.00** • Pb: 978-0-415-37042-4: **\$62.95** • eBook: 978-0-203-03023-3

For more information, visit: [www.routledge.com/9780415370424](http://www.routledge.com/9780415370424)



2nd Edition

**Practical Hydraulics****Melvyn Kay**

Approaching hydraulics from basic principles, Melvyn Kay demonstrates how these are applied in practice through many illustrations and examples, making a valuable introduction for everyone from farmers, irrigating crops, to fire crews, putting out fires with high-pressure water hoses; doctors, needing to know how blood flows in veins, to car designers, wanting to save fuel by reducing drag.

2007: 246 x 174: 272pp  
Hb: 978-0-415-35114-0: **\$180.00**  
Pb: 978-0-415-35115-7: **\$59.95**  
eBook: 978-0-203-96077-6

For more information, visit:  
[www.routledge.com/9780415351157](http://www.routledge.com/9780415351157)

**Hydraulic Structures****P. Novak, A.I.B. Moffat, C. Nalluri and R. Narayanan**

The fully revised and updated fourth edition of this volume presents design principles and practical guidance for key hydraulic structures.

**Selected Contents:** Part 1: Dam Engineering Part 2: Other Hydraulic Structures

2006: 234 x 156: 736pp  
Hb: 978-0-415-38625-8: **\$230.00**  
Pb: 978-0-415-38626-5: **\$69.95**  
eBook: 978-0-203-96463-7

For more information, visit:  
[www.routledge.com/9780415386265](http://www.routledge.com/9780415386265)



Complimentary Exam Copy



e-Inspection



Companion Website

**BESTSELLER**

4th Edition

**Hydraulics in Civil and Environmental Engineering****Andrew Chadwick, John Morfett and Martin Borthwick**

This classic text, combines thorough coverage of the basic principles of hydraulics with a wide-ranging treatment of practical, real-world applications.

2004: 234 x 156: 680pp  
 Hb: 978-0-415-30608-9: **\$260.00**  
 Pb: 978-0-415-30609-6: **\$74.95**  
 eBook: 978-0-203-14013-0

For more information, visit:  
[www.routledge.com/9780415306096](http://www.routledge.com/9780415306096)

2nd Edition

**Planning and Design of Engineering Systems****Graeme Dandy, David Walker, Trevor Daniell and Robert Warner**

Providing students with a commonsense approach to the solution of engineering problems and packed full with practical case studies, this book is a comprehensive introduction to the scope and nature of engineering.

2007: 234 x 156: 416pp  
 Hb: 978-0-415-40551-5: **\$180.00**  
 Pb: 978-0-415-40552-2: **\$59.95**  
 eBook: 978-0-203-96080-6

For more information, visit:  
[www.routledge.com/9780415405522](http://www.routledge.com/9780415405522)

**BESTSELLER****Hydraulic Modelling – An Introduction**

Principles, Methods and Applications

**Pavel Novak**, formerly at Newcastle University, UK, **Vincent Guinot**, University of Montpellier, France, **Alan Jeffrey**, Newcastle University, UK and **Dominic E. Reeve**, University of Plymouth, UK



**'This book should definitely find its place in all libraries concerned with hydraulics, hydroinformatics and modelling. It certainly should be available in their respective institutions to all engineers who are involved in modelling or are using results of models. And it should be advised as essential reading to students at postgraduate level in hydraulics and hydroinformatics.'** – *Jean A. Cunge, Journal of Hydroinformatics*

**'The authors have written an outstanding and timely work'** – *Willi H. Hager and Michael Pfister, Journal of Hydraulic Research*

Modelling forms a vital part of all engineering design, yet many hydraulic engineers are not fully aware of the assumptions they make. These assumptions can have important consequences when choosing the best model to inform design decisions.

Considering the advantages and limitations of both physical and mathematical methods, this book will help you identify the most appropriate form of analysis for the hydraulic engineering

application in question. All models require the knowledge of their background, good data and careful interpretation and so this book also provides guidance on the range of accuracy to be expected of the model simulations and how they should be related to the prototype.

Applications to models include:

- open channel systems
- closed conduit flows
- storm drainage systems
- estuaries
- coastal and nearshore structures
- hydraulic structures.

This is an invaluable guide for both students and professionals.

**Selected Contents:** 1. Introduction 2. Theoretical Background 3. Development of Physical Models 4. Development of Numerical Models 5. Procedure and Tools – Physical Models 6. Procedure and Tools – Mathematical Models 7. Hydrodynamic Modelling of Open Channel Systems 8. Environmental Modelling of Open Channel Systems 9. Hydrodynamic Modelling of Closed Conduit Flows 10. Modelling of Storm Drainage Systems 11. Modelling of Estuaries 12. Modelling of Coastal and offshore Structures and Processes 13. Modelling of Hydraulic Structures

2010: 234 x 156: 616pp  
 Hb: 978-0-419-25010-4: **\$180.00** • Pb: 978-0-419-25020-3: **\$79.95** • eBook: 978-0-203-86162-2

For more information, visit: [www.routledge.com/9780419250203](http://www.routledge.com/9780419250203)

3rd Edition

## Urban Drainage

**David Butler**, University of Exeter, UK and **John Davies**, Coventry University, UK



This new edition has been thoroughly revised and updated to reflect changes in the practice and priorities of urban drainage. New and expanded coverage includes:

- sewer flooding
- the impact of climate change
- flooding models
- the move towards sustainability.

Providing a descriptive overview of the issues involved as well as the engineering principles and analysis, it draws on real-world examples as well as models to support and demonstrate the key issues facing engineers dealing with drainage issues. It also deals with both the

design of new drainage systems and the analysis and upgrading of existing infrastructure.

A unique and essential textbook for students of water, environmental and public health engineering as well as a valuable resource for practising engineers.

**Selected Contents:** 1. Introduction 2. Approaches to Urban Drainage 3. Water Quality 4. Wastewater 5. Rainfall 6. Stormwater 7. System Components and Layout 8. Hydraulics 9. Hydraulic Features 10. Foul Sewers 11. Storm Sewers 12. Sewer Flooding 13. Combined Sewers and Combined Sewer Overflows 14. Storage 15. Pumped Systems 16. Structural Design and Construction 17. Sediments 18. Operation, Maintenance and Performance 19. Rehabilitation 20. Flow Models 21. Quality models 22. Stormwater Management 23. Low-income Communities 24. Integrated Management and Control 25. Towards Sustainability

2010: 234 x 156: 656pp

Hb: 978-0-415-45525-1: **\$180.00** • Pb: 978-0-415-45526-8: **\$62.95**

eBook: 978-0-203-84905-7

For more information, visit: [www.routledge.com/9780415455268](http://www.routledge.com/9780415455268)



NEW

2nd Edition

## Coastal Engineering

Processes, Theory and Design Practice

**Dominic Reeve**, University of Plymouth, UK, **Andrew Chadwick**, University of the West Indies, Trinidad and University of Plymouth, UK and **Christopher Fleming**, Halcrow Group Ltd., UK

**'The extent of coverage is impressive. As well as being a useful reference book in its own right, it is extremely useful to have a single starting-point for graduates... the book is well structured and easy to use.'** – *S Sinclair, Maritime Engineering*

Historically, much harm has been done by well-meaning coastal engineering attempts, which seemed like good ideas on paper but which failed to allow for practical issues. For this reason, it is vital that theories and models are well grounded in practice.

This second edition of Coastal Engineering brings the models and examples of practice up-to-date. It has expanded coverage of tsunamis and generating energy from waves to focus both on the great dangers and the great opportunities which the ocean presents to the coastal zone. With an emphasis on practice and detailed modeling, this is a thorough introduction to all aspects of coastal processes, morphology and design of coastal defences. It describes numerous case studies to illustrate the successful application of mathematical modeling to real world practice.

A must-have book for engineering students looking to specialize in coastal engineering and management.

**Selected Contents:** 1. Introduction 2. Wind Waves 3. Design Wave Specification 4. Coastal Water Level Variations 5. Coastal Zone Processes 6. Coastal Morphology: Analysis, Modelling and Prediction 7. Design, Reliability and Risk 8. Field Surveys and Physical Models 9. Conceptual and Detailed Design 10. Renewable Energy 11. Dredging and Ports. References. Appendices: Appendix A – Summary of Statistical Concepts and Terminology Appendix B – Maximum Likelihood Estimation Appendix C – Harmonic Analysis

October 2011: 246 x 174: 496pp

Hb: 978-0-415-58352-7: **\$165.00** • Pb: 978-0-415-58353-4: **\$59.95**

For more information, visit: [www.routledge.com/9780415583534](http://www.routledge.com/9780415583534)



Complimentary Exam Copy



e-Inspection

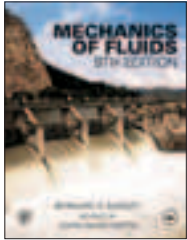


Companion Website

**NEW**

9th Edition

## Mechanics of Fluids

**John Ward-Smith**, formerly Brunel University, UK

The ninth edition of Massey's *Mechanics of Fluids* introduces the basic principles of the mechanics of fluids in a detailed and clear manner. It provides the sound physical understanding of fluid flow that is essential for an honours degree course in civil or mechanical engineering as well as courses in aeronautical and chemical engineering.

Focusing on the engineering applications of fluid flow, rather than mathematical techniques, students are gradually introduced to the subject, with the text moving from the simple to the complex, and from the familiar to the unfamiliar. In an all new chapter, the ninth edition closely examines the modern

context of fluid mechanics, where climate change, new forms of energy generation and fresh water conservation are pressing issues. SI units are used throughout and there are many worked examples.

Though the book is essentially self-contained, where appropriate, references are given to more detailed or advanced accounts of particular topics providing a strong basis for further study. For lecturers, an accompanying solutions manual is available.

**Selected Contents:** Preface 1. Fundamental Concepts 2. Fluid Statics 3. The Principles Governing 4. The Momentum Equation 5. Physical Similarity and Dimensional Analysis 6. Laminar Flow Between Solid Boundaries 7. Flow and Losses in Pipes and Fittings 8. Boundary Layers, Wakes and other Shear Layers 9. The Flow of an Inviscid Fluid 10. Flow with a Free Surface 11. Compressible Flow of Gases 12. Unsteady Flow 13. Fluid Machines 14. Fluid Mechanics in a Changing World 15. Appendix 1: Units and Conversion Factors 16. Appendix 2: Physical Constants and Properties of Fluids 17. Appendix 3: Tables of Gas Flow Functions 18. Appendix 4: Algebraic Symbols

August 2011: 246 x 189: 720pp

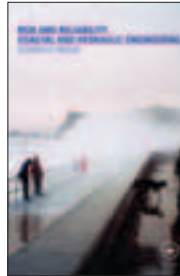
Hb: 978-0-415-60259-4: **\$195.00** • Pb: 978-0-415-60260-0: **\$59.95**

eBook: 978-0-203-83544-9

For more information, visit: [www.routledge.com/9780415602600](http://www.routledge.com/9780415602600)

## Risk and Reliability

Coastal and Hydraulic Engineering

**Dominic Reeve**, University of Plymouth, UK

*Risk and Reliability* sets out the methods which are increasingly being required by Government Agencies for river and sea defence design and flood defence system management. It also shows how to describe uncertainty in the performance of flood and erosion defences.

It introduces the key statistical concepts required for the implementation of a reliability analysis, and the analytical and the numerical methods are each described with worked examples. Example applications of the methods are given to illustrate their advantages and limitations, together with case studies drawn from the author's experience of academia and consultancy. It draws together scattered material and provides coastal and hydraulic engineers with an accessible entry to

reliability analysis and thence to the cutting-edge literature.

This book suits advanced undergraduates and MSc students of flood and coastal defence. It also serves as a helpful source of information for consultants, practitioners and academics.

**Selected Contents:** 1. Introduction 2. Introduction to Probability 3. Elements of Probability and Stochastic Processes 4. Extremes 5. Uncertainty and Reliability Analysis 6. Applications 7. Reliability of Systems. Epilogue. References. Appendix A: Statistical Tables. Appendix B: Flow Chart for Choice of Method

2009: 234 x 156: 320pp

Hb: 978-0-415-46755-1: **\$104.95** • eBook: 978-0-203-89552-8For more information, visit: [www.routledge.com/9780415467551](http://www.routledge.com/9780415467551)

NEW

## Essentials of Offshore Structures

Theory and Applications

**D.V. Reddy**, Florida Atlantic University, USA and  
**A.S.J. Swamidas**, Memorial University, St. Johns, Canada

Compiled by leading experts, this text looks at the new and longstanding methods used for analyzing offshore structures. It details the latest procedures for computing wind, wave, current, tide, and seismic effects. With an emphasis on risk-based analysis, the authors consider construction style and materials choices as well as environmental factors, especially seabed soils. Covering both theory and applications, this text provides more than 200 illustrations and includes practical problems with worked solutions at the end of each chapter.

**Selected Contents:** Offshore Operations and Structural Development. Components of a Typical Offshore Structure. Ocean Environment – Wind, Wave, Current, Tides, Ice and Seismic Effects. Seabed Mechanics. Materials and Their Behavior in the Ocean Environment. Environmental Forces on Offshore Structures. Fundamental Considerations for Offshore Structures. Analysis of Framed Steel Offshore Structures. Gravity Concrete Structures Analysis. Compliant Structural Analysis. Semi-submersibles and Station-keeping. Submerged and Structure Analysis. Offshore Pipeline Analysis. Manmade Offshore Islands and Analysis. Higher Aspects of Offshore Structural Analysis.

November 2011: 235 x 156: 512pp  
Hb: 978-1-4200-6882-5: **\$119.95**

For more information, visit:  
[www.routledge.com/9781420068825](http://www.routledge.com/9781420068825)



3rd Edition

## Air Pollution

Measurement, Modelling and Mitigation

**Jeremy Colls**, University of Nottingham, UK and  
**Abhishek Tiwary**, University of Manchester, UK



This one-stop, comprehensive upper-level undergraduate and graduate textbook covers the three essential components of air pollution science. It now includes the role of air pollutants in climate change, the depletion of stratospheric ozone, and air pollution mitigation by vegetation, and coverage of developing countries, but retains a quantitative perspective.

**Selected Contents:** 1. Air Pollutants: Sources and Control of Gases 2. Air Pollutants: Particulates 3. Mobile Sources 4. Measurement of Gases and Particles 5. Concentrations and Deposition 6. Meteorology and Modelling 7. Analysis of an Air Quality Data Set 8. Indoor Air Quality 9. Mitigation of Air Pollution: The Role of Vegetation 10. Effects on Plants, Visual Range and Materials 11. Responses of Humans and Other Animals 12. Greenhouse Gases and Climate Change 13. Ozone Depletion and Ultraviolet Radiation 14. Standards and Legislation

2009: 246 x 189: 528pp  
Hb: 978-0-415-47933-2: **\$155.00**  
Pb: 978-0-415-47932-5: **\$71.95**

For more information, visit:  
[www.routledge.com/9780415479325](http://www.routledge.com/9780415479325)

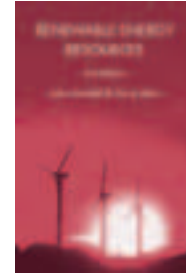


BESTSELLER

2nd Edition

## Renewable Energy Resources

**John Twidell** and **Tony Weir**



The second edition of this standard text reflects the experience gained as a result of the rapid developments in renewable energy technologies, and will be of use to both students and professionals.

2005: 234 x 156: 624pp  
Hb: 978-0-419-25320-4: **\$210.00**  
Pb: 978-0-419-25330-3: **\$75.00**  
eBook: 978-0-203-47872-1  
For more information, visit:  
[www.routledge.com/9780419253303](http://www.routledge.com/9780419253303)

## Engineering Modelling and Analysis

**David Walker**, **Michael Leonard**,  
**Andrew Metcalfe** and **Martin Lambert**

2008: 234 x 156: 440pp  
Hb: 978-0-415-46961-6: **\$180.00**  
Pb: 978-0-415-46962-3: **\$59.95**  
eBook: 978-0-203-89454-5

For more information, visit:  
[www.routledge.com/9780415469623](http://www.routledge.com/9780415469623)



Complimentary Exam Copy



e-Inspection



Companion Website

**NEW**

Textbook

## Building Performance Simulation for Design and Operation

Edited by **Jan L.M. Hensen**, Technical University of Eindhoven, the Netherlands and **Roberto Lamberts**, Federal University of Santa Catarina, Brazil



This book provides a unique and comprehensive overview of building performance simulation for the complete building life-cycle from conception to demolition. It is primarily intended for advanced students in building services engineering, and in architectural, environmental or mechanical engineering. It will also be useful for building and systems designers and operators.

**Selected Contents:** 1. The Role of Simulation in Performance Based Building 2. Weather Data for Building Performance Simulation 3. People in Building Performance Simulation 4. Thermal Load and Energy Performance Prediction 5. Ventilation Performance Prediction 6. Indoor Thermal Quality Performance Prediction 7. Room Acoustics Performance Prediction 8. Daylight Performance Predictions

9. Moisture Phenomena in Whole Building Performance Prediction 10. HVAC Systems Performance Prediction 11. Micro-cogeneration System Performance Prediction 12. Building Simulation for Practical Operational Optimization 13. Building Simulation in Building Automation Systems 14. Integrated Resource Flow Modelling of the Urban Built Environment 15. Building Simulation for Policy Support 16. A View on Future Building System Modelling and Simulation

January 2011: 246 x 174: 536pp

Hb: 978-0-415-47414-6: **\$110.00** • eBook: 978-0-203-89161-2

For more information, visit: [www.routledge.com/9780415474146](http://www.routledge.com/9780415474146)



## Environmental Modelling

An Uncertain Future?

**Keith Beven**

This book introduces scientists and decision makers to the concepts and techniques of uncertainty estimation in environmental prediction looking at the collection of observations and data assimilation in real-time forecasting.

2008: 246 x 174: 328pp

Hb: 978-0-415-46302-7: **\$190.00** • Pb: 978-0-415-45759-0: **\$59.95**

eBook: 978-0-203-93248-3

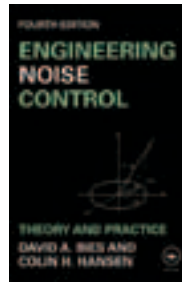
For more information, visit: [www.routledge.com/9780415457590](http://www.routledge.com/9780415457590)

4th Edition

## Engineering Noise Control

Theory and Practice

**David Bies** and **Colin Hansen** both at University of Adelaide, Australia



The practice of engineering noise control demands a solid understanding of the fundamentals of acoustics, the practical application of current noise control technology, and the underlying theoretical concepts. This fully revised and updated fourth edition provides a clear comprehensive explanation of these key areas. Written by experts in their field, the practical focus echoes advances in the discipline reflected in the books material, including updated coverage of sound transmission loss, mufflers and exhaust stack directivity; a new chapter on practical numerical acoustics; and thorough explanation of the latest instruments for measurements and analysis.

2009: 234 x 156: 768pp

Hb: 978-0-415-48706-1: **\$160.00** • Pb: 978-0-415-48707-8: **\$74.95**

eBook: 978-0-203-87240-6

For more information, visit: [www.routledge.com/9780415487078](http://www.routledge.com/9780415487078)



## Ethics for the Built Environment

Peter Fewings



Much closer relationships are being formed in the development of the built environment and cultural changes in procurement methods are taking place. A need has grown to re-examine the ethical frameworks required to sustain collaborative trust and transparency. Young professionals are moving around between companies on a frequent basis and take their personal values with them. What can companies do to support their employees?

**Selected Contents: Part 1: Principles and Issues** Introduction  
1. Development of an Ethical Framework 2. Dilemmas and Decision Making 3. Corporate Social Responsibility 4. Professional Codes 5. Human Resource Ethics 6. Health and Safety 7. Planning 8. Sustainability 9. Trust and Relationships 10. Bribery and Corruption 11. Good Faith **Part 2: Industry Survey Case Studies**

12. Corporate Social Responsibility 13. Partnering 14. Collusion 15. Project Agreements vs. False Employment 16. Health and Safety 17. Planning 18. Training 19. Quality 20. Sustainable Contracting 21. Trust and Relationships 22. Making it Work

2008: 234 x 156: 400pp

Hb: 978-0-415-42982-5: **\$180.00** • Pb: 978-0-415-42983-2: **\$52.95**

eBook: 978-0-203-92690-1

For more information, visit: [www.routledge.com/9780415429832](http://www.routledge.com/9780415429832)

**Order Yours Today!**

For simple and secure online ordering,  
please visit [www.sponpress.com](http://www.sponpress.com)

Or use the order form at the back  
of this catalog.



3rd Edition

## Project Management Demystified

Geoff Reiss



**'If you are new or relatively new to project management and you plan to have one book ... this is the one you should have.'** – *Martin Barnes, President of the Association of Project Management*

Approachable and written in an easy-to-use style, it shows readers how, where and when to use the various project management techniques, demonstrating how to achieve efficient management of human, material and financial resources to make major contributions to projects and be an appreciated and successful project manager.

2007: 234 x 156: 224pp

Pb: 978-0-415-42163-8: **\$44.95** • eBook: 978-0-203-94572-8

For more information, visit: [www.routledge.com/9780415421638](http://www.routledge.com/9780415421638)

**NEW**

## Project Management

Systems, Principles, and Applications

**Adedeji B. Badiru**, Air Force Institute of Technology, Dayton, Ohio, USA

Series: *Industrial Innovation*

December 2011: 235 x 156: 384pp

Hb: 978-1-4200-8319-4: **\$79.95**

For more information, visit: [www.routledge.com/9781420083194](http://www.routledge.com/9781420083194)



Complimentary Exam Copy



e-Inspection



Companion Website

**A**

Advanced Soil Mechanics . . . . . 10  
 Air Pollution . . . . . 16  
 Appelo, C.A.J. . . . . 11  
 Applied Geotechnics (series) . . . . . 7, 8, 9  
 Arya, Chanakya . . . . . 3  
 Atkinson, John . . . . . 10  
 Aysen, A. . . . . 7

**B**

Badiru, Adedeji B. . . . . 18  
 Bell, Adrian . . . . . 3  
 Beven, Keith . . . . . 17  
 Beven, Keith J. . . . . 12  
 Bhatt, Prab. . . . . 5  
 Bies, David . . . . . 17  
 Borthwick, Martin . . . . . 13  
 Bradford, M.A. . . . . 4  
 Brown, Tom G. . . . . 3  
 Building Performance Simulation  
 for Design and Operation . . . . . 17  
 Butler, David . . . . . 14

**C**

Carpinteri, Alberto . . . . . 2  
 Chadwick, Andrew . . . . . 13, 14  
 Chappell, Nick A. . . . . 12  
 Cheng, Franklin Y. . . . . 6  
 Choo, Ban Seng . . . . . 5  
 Coastal Engineering . . . . . 14  
 Colls, Jeremy . . . . . 16  
 Concrete Durability . . . . . 4  
 Craig, R.F. . . . . 8  
 Craig's Soil Mechanics . . . . . 8  
 Craig's Soil Mechanics: Solutions  
 Manual . . . . . 8

**D**

Dandy, Graeme . . . . . 13

Daniell, Trevor . . . . . 13  
 Daniels, John L. . . . . 10  
 Das, Braja M. . . . . 10  
 Davies, John. . . . . 14  
 Design of Structural Elements . . . . . 3  
 Dixon, Andrew . . . . . 2  
 Domone, Peter. . . . . 6  
 Dyer, Thomas. . . . . 4

**E**

Engineering Modelling and Analysis . . . . . 16  
 Engineering Noise Control . . . . . 17  
 Engineers . . . . . 5  
 Environmental Modelling . . . . . 17  
 Essentials of Offshore Structures . . . . . 16  
 Ethics for the Built Environment . . . . . 18

**F**

Fang, Hsai-Yang . . . . . 10  
 Fewings, Peter . . . . . 18  
 Fleming, Christopher . . . . . 14  
 Foundations of Engineering Geology. . . . . 9

**G**

Gardner, Leroy . . . . . 4  
 Geochemistry, Groundwater and  
 Pollution, Second Edition . . . . . 11  
 Ghali, Amin . . . . . 3  
 Gourvenec, Susan . . . . . 11  
 Guinot, Vincent . . . . . 13

**H**

Hansen, Colin . . . . . 17  
 Hazarika, Hemanta . . . . . 11  
 Hencher, Steve. . . . . 9  
 Hensen, Jan L.M. . . . . 17  
 Hydraulic Modelling  
 - An Introduction . . . . . 13  
 Hydraulic Structures. . . . . 12

Hydraulics in Civil and Environmental  
 Engineering . . . . . 13  
 Hydrology in Practice . . . . . 12

**I**

Illston, John . . . . . 6  
 In Situ Testing in Geomechanics . . . . . 8  
 Introduction to Geotechnical  
 Processes, An . . . . . 10  
 Introduction to Tunnel Construction . . . . . 7  
 Introductory Geotechnical  
 Engineering . . . . . 10  
 Ishibashi, Isao. . . . . 11

**J**

Jeffrey, Alan . . . . . 13  
 Jennings, Alan . . . . . 4  
 Ji, Tianjian . . . . . 3

**K**

Kay, Melvyn . . . . . 12  
 Knappett, Jonathan . . . . . 8

**L**

Lambert, Martin . . . . . 16  
 Lamberts, Roberto . . . . . 17  
 Leonard, Michael . . . . . 16

**M**

MacGinley, T.J. . . . . 5  
 Mah, Chris. . . . . 7  
 Mechanics of Fluids . . . . . 15  
 Mechanics of Soils and Foundations,  
 The . . . . . 10  
 Metcalfe, Andrew . . . . . 16  
 Metje, Nicole . . . . . 7  
 Moffat, A.I.B. . . . . 12  
 Morfett, John. . . . . 13  
 Muir Wood, David . . . . . 8

**N**

Nalluri, C. . . . . 12  
 Narayanan, R. . . . . 12  
 Nethercot, David . . . . . 4  
 Neville, Adam . . . . . 3  
 Novak, P. . . . . 12  
 Novak, Pavel . . . . . 13

**O**

O'Brien, Eugene . . . . . 2  
 Offshore Geotechnical Engineering . . . . . 11

**P**

Planning and Design of Engineering  
 Systems . . . . . 13  
 Postma, Dieke . . . . . 11  
 Powrie, William . . . . . 7  
 Practical Engineering Geology . . . . . 9  
 Practical Hydraulics . . . . . 12  
 Problem Solving in Soil Mechanics . . . . . 7  
 Project Management . . . . . 18  
 Project Management Demystified. . . . . 18

**R**

Randolph, Mark . . . . . 11  
 Reddy, D.V. . . . . 16  
 Reeve, Dominic . . . . . 13, 14, 15  
 Reinforced and Prestressed Concrete  
 Design to EC2 . . . . . 2  
 Reinforced Concrete . . . . . 5  
 Renewable Energy Resources . . . . . 16  
 Reynolds, Charles E. . . . . 5  
 Reynolds's Reinforced Concrete  
 Designer's Handbook . . . . . 5  
 Risk and Reliability . . . . . 15  
 Rock Slope Engineering . . . . . 7

**S**

Schnaid, Fernando . . . . . 8

Seeing and Touching Structural  
 Concepts . . . . . 3  
 Shaw, Elizabeth M. . . . . 12  
 Sheils, Emma . . . . . 2  
 Soil Mechanics . . . . . 11  
 Soil Mechanics Fundamentals. . . . . 7  
 Stärk, Alfred . . . . . 7  
 Steedman, James C. . . . . 5  
 Structural Analysis . . . . . 3  
 Structural and Stress Analysis . . . . . 3  
 Structural Engineering: Mechanics  
 and Design (series) . . . . . 6  
 Structural Mechanics Fundamentals . . . . . 2  
 Structural Optimization . . . . . 6  
 Structures . . . . . 4  
 Swamidas, A.S.J. . . . . 16

**T**

Threlfall, Anthony J. . . . . 5  
 Tiwary, Abhishek . . . . . 16  
 Trahair, N.S. . . . . 4  
 Truman, Kevin Z. . . . . 6  
 Twidell, John . . . . . 16

**U**

Urban Drainage . . . . . 14

**W**

Walker, David. . . . . 13, 16  
 Ward-Smith, John . . . . . 15  
 Warner, Robert . . . . . 13  
 Weir, Tony . . . . . 16  
 Wells, Matthew . . . . . 5  
 Woodward, John . . . . . 10  
 Wyllie, Duncan C. . . . . 7

**Y**

Ye, Jianqiao . . . . . 3

# ORDER YOUR BOOKS TODAY...

**FREE SHIPPING!**

Web orders over \$35 receive free shipping.  
(in US and Canada only)



To order in the US, Canada and Latin America, please contact:

**MAIL:**

Routledge, 7625 Empire Drive  
Florence, KY 41042

**TELEPHONE:**

Toll Free: 1-800-634-7064  
(M-F: 8am - 5:30pm)

International: (561) 361-6000, ext. 6418

**FAX:**

Toll Free: 1-800-248-4724  
International: (561) 361-6075

**EMAIL:**

orders@taylorandfrancis.com

**ONLINE:**

www.sponpress.com

## Bookstores

### LATIN AMERICA

Taylor & Francis  
6000 Broken Sound Pkwy NW, Ste. 300  
Boca Raton, FL 33487

Call International:

(561) 361-6000, ext. 6418

Fax International: (561) 361-6075

Email: orders@taylorandfrancis.com

### DISTRIBUTOR OF CHOICE IN CANADA

Login Canada, 300 Saulteaux Cr.,  
Winnipeg, MB R3J 3T2

Call Toll Free: 1-800-665-1148

Fax Toll Free: 1-800-665-0103

Fax: (204) 837-2987

Email: sales@lb.ca

Qty	Title	ISBN	Price

### SHIPPING & HANDLING

**US:** \$5.99 1st book; \$1.99 each additional book.

**Canada:** Ground: \$7.99 1st book; \$1.99 each additional book.

Expedited: \$15.99 1st book; \$1.99 each additional book.

**Latin America:** Airmail: \$44.00 1st book; \$7.00 each additional book.

Surface: \$17.00 1st book; \$2.99 each additional book.

### SALES TAX/GST

Residents of AZ, CA, CO, CT, FL, GA, IL, IN, KY, MA, MD, ME, MO, NJ,  
NY, PA, TN, TX, UT, VA and CANADA please add local sales tax.

Canadian residents please add 5% GST.

Tax

Shipping

**TOTAL**

## Method of Payment

**Institutions:** Please attach your institutional purchase order to this form.

**Individuals:** We request that all US and Canadian individual orders be prepaid by check, money order, or credit card. Latin American individual orders be prepaid by money order or credit card only.

I have included my check (US and Canada only) or money order for the full amount due, made payable to Taylor & Francis/Routledge.

Please charge my credit card:  VISA

Name on credit card: \_\_\_\_\_

Account number:

Expiration date: \_\_\_\_/\_\_\_\_

Signature: \_\_\_\_\_  
(order not valid without signature)

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Prices and publication dates are subject to change without notice.

## Your Details – Please use block capitals.

Name: \_\_\_\_\_ Email: \_\_\_\_\_

Department: \_\_\_\_\_

Institution: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Country: \_\_\_\_\_ Telephone: \_\_\_\_\_

## COMPLIMENTARY EXAM REQUEST

To order a complimentary exam copy, please contact us using one of the methods below.

**TELEPHONE:** Toll Free: 1-800-634-7064

**FAX:** Toll Free: 1-800-248-4724

**ONLINE:** [www.routledge.com/info/compcopy](http://www.routledge.com/info/compcopy)



## LIBRARY RECOMMENDATION

Ensure that your library has access to all the latest publications.

Visit [www.routledge.com/info/librarian.asp](http://www.routledge.com/info/librarian.asp) today and complete our online Library Recommendation Form.

[www.sponpress.com](http://www.sponpress.com)

CB0111CECA



Taylor & Francis

# eBooks

## FOR LIBRARIES

ORDER YOUR  
FREE 30 DAY  
INSTITUTIONAL  
TRIAL TODAY!

Over 23,000 eBook titles in the Humanities, Social Sciences, STM and Law from some of the world's leading imprints.

Choose from a range of subject packages or create your own!

Benefits for  
**you**

- ▶ Free MARC records
- ▶ COUNTER-compliant usage statistics
- ▶ Flexible purchase and pricing options

Benefits for your  
**USER**

- ▶ Off-site, anytime access via Athens or referring URL
- ▶ Print or copy pages or chapters
- ▶ Full content search
- ▶ Bookmark, highlight and annotate text
- ▶ Access to thousands of pages of quality research at the click of a button

For more information, pricing enquiries or to order a free trial, contact your local online sales team.

UK and Rest of World:  
[online.sales@tandf.co.uk](mailto:online.sales@tandf.co.uk)

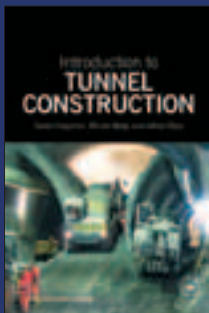
US, Canada and Latin America:  
[e-reference@taylorandfrancis.com](mailto:e-reference@taylorandfrancis.com)

[www.ebooksubscriptions.com](http://www.ebooksubscriptions.com)

A flexible and dynamic resource for teaching, learning and research.



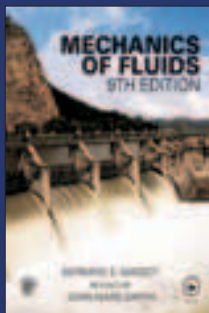
Taylor & Francis  
Taylor & Francis Group



Page 7



Page 13



Page 15



Spon Press

an imprint of Taylor & Francis

Routledge  
Taylor & Francis Group  
c/o CMFS  
31 Styertowne Road  
Clifton, NJ 07012

PRSR STD  
U.S. POSTAGE  
PAID  
WAYNE, N.J.  
PERMIT NO.  
1104

## Visit the NEW Routledge.com

### Why Should You Try Our New Website?

- ▶ Improved search, product listings and product detail pages
- ▶ Enhanced shopping experience, shipping options and security
- ▶ New ways to browse our books; "Textbooks by Course"



*Browse and order online today!*



ISBN: 978-0-415-50423-2  
90000

WEB ORDERS OVER \$35 RECEIVE FREE SHIPPING IN US AND CANADA

www.routledge.com