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Introduction to Coastal Engineering and Management
Civil Engineer's Handbook of Professional Practice
Geoenvironmental Engineering
Soil Physics
Limit Analysis and Soil Plasticity
Numerical Methods and Implementation in Geotechnical Engineering – Part 1
Applied Soil Mechanics with ABAQUS Applications
International Conference on Case Histories in Geotechnical Engineering
Geotechnical Engineering
Environmental Engineering
Advances in Geotechnical Engineering
Stabilized Earth Roads
Geotechnical Engineering Handbook, Procedures
Introduction to Soil Mechanics
Introduction to Geotechnical Engineering
Applications of Computational Mechanics in Geotechnical Engineering
Methods of Foundation Engineering
Journal of the Geotechnical Engineering Division
Rock and Soil Mechanics
Rock Mechanics in Civil and Environmental Engineering
Geotechnical Engineer's Portable Handbook
Analysis and Design of Energy Geostructures
Embankments on Organic Soils
Alkali-Activated Cements and Concretes
Proceedings of the 5th Indian Young Geotechnical Engineers Conference (5IYGEC)
Principles of Geotechnical Engineering
Geotechnical Earthquake Engineering
Geotechnical Engineering Handbook
Fundamentals of Discrete Element Methods for Rock Engineering: Theory and Applications
Geotechnical Investigations and Improvement of Ground

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Conditions Foundation Engineering Underground Engineering Creep of Soils Geotechnical Engineering Calculations and Rules of Thumb Rock Mechanics and Strata Control in Mining and Geotechnical Engineering Coastal Engineering - Waves, Beaches, Wave-Structure Interactions Proceedings of China-Europe Conference on Geotechnical Engineering Journal of Geotechnical Engineering Proceedings of the Annual Symposium on Engineering Geology & Geotechnical Engineering Non-destructive Testing and Evaluation of Civil Engineering Structures

Introduction to Coastal Engineering and Management

Underground Engineering: Planning, Design, Construction and Operation of the Underground Space provides the author's vast experience as both an academic and practitioner. It covers Planning, Design, Construction and the Operation of Underground Structures. Targeted at young professionals, students and researchers new to the field, the book contains examples, illustrations and cases from diverse underground uses, from roads to disposal facilities. Sections cover the history of the field, upcoming challenges, the planning stage of the subsurface use, including financial planning and reliability forecasting, site investigation, instrumentation and modeling, construction techniques and challenges, and more. Young professionals in this area will benefit from the updated and complete

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overview of Underground Engineering. Students will find the examples and cases particularly didactic. Richly illustrated, this book is an excellent resource for all involved in the development of the underground space. Offers a complete introduction to the area, including planning, design, construction and the operation of underground structures Assumes little previous knowledge from readers Presents the most recent techniques and future technical trends Richly illustrated and packed with examples to help readers understand the fundamentals of the area

Civil Engineer's Handbook of Professional Practice

Geotechnical Engineering Calculations Manual offers geotechnical, civil and structural engineers a concise, easy-to-understand approach the formulas and calculation methods used in of soil and geotechnical engineering. A one stop guide to the foundation design, pile foundation design, earth retaining structures, soil stabilization techniques and computer software, this book places calculations for almost all aspects of geotechnical engineering at your finger tips. In this book, theories is explained in a nutshell and then the calculation is presented and solved in an illustrated, step-by-step fashion. All calculations are provided in both fps and SI units. The manual includes topics such as shallow foundations, deep foundations, earth retaining structures, rock mechanics and tunnelling. In this book, the author's done all the heavy number-crunching for you, so you get

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instant, ready-to-apply data on activities such as: hard ground tunnelling, soft ground tunnelling, reinforced earth retaining walls, geotechnical aspects of wetland mitigation and geotechnical aspects of landfill design. • Easy-to-understand approach the formulas and calculations • Covers calculations for foundation, earthworks and/or pavement subgrades • Provides common codes for working with computer software • All calculations are provided in both US and SI units

Geoenvironmental Engineering

Soil Physics

The third international workshop on applications of computational mechanics in geotechnical engineering discussed the area of computational mechanics applied to geotechnical problems. During the event, topics such as ground reinforcement and computational models were covered.

Limit Analysis and Soil Plasticity

In this volume, soil creep is analysed within the framework of other soil-rheological

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phenomena, such as stress relaxation and long-term resistance, to present an in-depth discussion of the effect of time on soil behaviour. As time is the only state parameter which cannot be entirely modelled in the laboratory, the presented extrapolation is based upon a combination of appropriate theoretical analysis, and the principles of the physical behaviour of soils affected by state parameters such as porosity, water content, stress, strain, time and temperature. Principal macro- and microrheological theories are analysed, and a comprehensive picture of the soil structure and of the effect of state parameters is presented, documented by the author's experiments and illustrated by many examples. The theory of hereditary creep was selected as the best theory serving the author's purpose to propose simple constitutive relations governing creep of soils. The proposed constitutive relations have been implemented into FEM programs and the effect of the time factor has been demonstrated by the solution of such boundary value problems as a dams and underground tunnels. This volume should be of interest to civil engineers, scientists, research and postgraduate students, and advanced undergraduates.

Numerical Methods and Implementation in Geotechnical Engineering - Part 1

Intended as an introductory text in soil mechanics, the eighth edition of Das,

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PRINCIPLES OF GEOTECHNICAL ENGINEERING offers an overview of soil properties and mechanics together with coverage of field practices and basic engineering procedure. Background information needed to support study in later design-oriented courses or in professional practice is provided through a wealth of comprehensive discussions, detailed explanations, and more figures and worked out problems than any other text in the market. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Applied Soil Mechanics with ABAQUS Applications

Extended Abstracts of Research Papers Published in 5IYGEC: The 5th Indian Young Geotechnical Engineers Conference, organized by Indian Geotechnical Society to commemorate Silver Jubilee of IGS, Baroda Chapter.

International Conference on Case Histories in Geotechnical Engineering

The main body of the first volume is taken up by five major keynote papers written by a team of international experts, that survey the enormous advances that have taken place in geotechnical engineering since Skempton's pioneering early work.

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The second volume contains more than 80 articles that report recent research and advances in practice from around the world. The papers focus on the broad range of geotechnical issues, that most interested Professor Skempton, and are grouped under the headings of: - Soil behaviour, characterisation and modelling - Foundations - Slopes and embankments - Ground performance - The influence of geology on civil engineering.

Geotechnical Engineering

This book compiles the second part of contributions to the China-Europe Conference on Geotechnical Engineering held 13.-16. August 2018 in Vienna, Austria. About 400 papers from 35 countries cover virtually all areas of geotechnical engineering and make this conference a truly international event. The contributions are grouped into thirteen special sessions and provide an overview of the geotechnical research and practice in China, Europe and the world: · Constitutive model · Micro-macro relationship · Numerical simulation · Laboratory testing · Geotechnical monitoring, instrumentation and field test · Foundation engineering · Underground construction · Environmental geotechnics · New geomaterials and ground improvement · Cold regions geotechnical engineering · Geohazards – risk assessment, mitigation and prevention · Unsaturated soils and energy geotechnics · Geotechnics in transportation, structural and hydraulic Engineering

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Environmental Engineering

Environmental Engineering: Fundamentals, Sustainability, Design presents civil engineers with an introduction to chemistry and biology, through a mass and energy balance approach. ABET required topics of emerging importance, such as sustainable and global engineering are also covered. Problems, similar to those on the FE and PE exams, are integrated at the end of each chapter. Aligned with the National Academy of Engineering's focus on managing carbon and nitrogen, the 2nd edition now includes a section on advanced technologies to more effectively reclaim nitrogen and phosphorous. Additionally, readers have immediate access to web modules, which address a specific topic, such as water and wastewater treatment. These modules include media rich content such as animations, audio, video and interactive problem solving, as well as links to explorations. Civil engineers will gain a global perspective, developing into innovative leaders in sustainable development.

Advances in Geotechnical Engineering

Stabilized Earth Roads

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Geotechnical Investigation and Improvement of Ground Conditions covers practical information on ground improvement and site investigation, considering rock properties and engineering geology and its relation to construction. The book covers geotechnical investigation for construction projects, including classic case studies with geotechnical significance. Additional sections cover soil compaction, soil stabilization, drainage and dewatering, grouting methods, the stone column method, geotextiles, fabrics and earth reinforcement, miscellaneous methods and tools for ground improvement, geotechnical investigation for construction projects, and forensic geotechnical engineering. Final sections present a series of site-specific case studies. Dedicated to ground improvement techniques and geotechnical site investigation Provides practical guidance on site-specific geotechnical investigation and the subsequent interpretation of data Presents site-specific case studies with geotechnical significance Includes site investigation of soils and rocks Gives field-oriented information and guidance

Geotechnical Engineering Handbook, Procedures

Developments in Geotechnical Engineering, Volume 19: Stabilized Earth Roads surveys soil stabilization theory and practice. This work is divided into nine chapters that discuss the physical, chemical, and soil mechanics principles of soil stabilization. The first chapter is an introduction to the history, methods, and importance of soil stabilization in road construction. The next chapters deal with

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the fundamental definitions of soil physics and the interactions of soil components, as well as the concept of mechanical soil stabilization. Considerable chapters examine soil stabilization with several materials, such as cement, lime, bitumen, and tar. The last chapters describe the soil-stabilization methods with various chemicals, including chlorides, phosphoric acid, and natural and synthetic polymers. These chapters also consider the design of stabilized earth roads. This book is of value to geologists and civil engineers.

Introduction to Soil Mechanics

More and more civil engineering constructions are being built on soft soils. As areas with better foundations are used up the necessity to be able to build structures on soft soils increases. The most troublesome of soft soils are organic soils due mainly to their high compressibility (much higher than in mineral soils), and also their very low shear strength. The large diversity of organic soils with respect to their origin as well as their properties make classification, testing, and engineering prediction of behaviour, very difficult. For this reason, engineers try, in general, to avoid constructing on deep layers of organic soils. If forced, by necessity, to do so, they manage with light structures e.g. embankments or low buildings. The authors of this book have been involved in a joint research project on the testing of embankments on organic soils. This was carried out in the North-Western part of Poland by the Swedish Geotechnical Institute and the Department

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of Geotechnics of Warsaw Agricultural University. The results of their research is presented in this new book and provides a valuable insight into this growing area in the field of engineering geology.

Introduction to Geotechnical Engineering

One-volume library of instant geotechnical and foundation data Now for the first time ever, geotechnical, foundation, and civil engineersgeologistsarchitects, planners, and construction managers can quickly find information they must refer to every working day, in one compact source. Edited by Robert W. Day, the time -and effort-saving Geotechnical Engineer's Portable Handbook gives you field exploration guidelines and lab procedures. You'll find soil and rock classification, basic phase relationships, and all the tables and charts you need for stress distribution, pavement, and pipeline design. You also get abundant information on all types of geotechnical analyses, including settlement, bearing capacity, expansive soil, slope stability - plus coverage of retaining walls and building foundations. Other construction-related topics covered include grading, instrumentation, excavation, underpinning, groundwater control and more.

Applications of Computational Mechanics in Geotechnical Engineering

Methods of Foundation Engineering

Although theoretical in character, this book provides a useful source of information for those dealing with practical problems relating to rock and soil mechanics - a discipline which, in the view of the authors, attempts to apply the theory of continuum to the mechanical investigation of rock and soil media. The book is in two separate parts. The first part, embodying the first three chapters, is devoted to a description of the media of interest. Chapter 1 introduces the main argument and discusses the essence of the discipline and its links with other branches of science which are concerned, on the one hand, with technical mechanics and, on the other, with the properties, origins, and formation of rock and soil strata under natural field conditions. Chapter 2 describes mechanical models of bodies useful for the purpose of the discourse and defines the concept of the limit shear resistance of soils and rocks. Chapter 3 gives the actual properties of soils and rocks determined from experiments in laboratories and in situ. Several tests used in geotechnical engineering are described and interconnections between the physical state of rocks and soils and their rheological parameters are considered. The second part of the book considers the applications of various theories which were either first developed for descriptive purposes in continuum mechanics and then adopted in soil and rock mechanics, or were specially developed for the latter discipline. Chapter 4 discusses the application of the theory of linear viscoelasticity in solving

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problems of stable behaviour of rocks and soils. Chapter 5 covers the use of the groundwater flow theory as applied to several problems connected with water movement in an undeformable soil or rock skeleton. Chapter 6 is a natural expansion of the arguments put forward in the previous chapter. Here the movement of water is regarded as the cause of deformation of the rock or soil skeleton and the consolidation theory developed on this basis is presented in a novel formulation. Some new engineering solutions are also reported. The seventh chapter is devoted to the limit state theory as applied to the study of the mechanical behaviour of soils and rocks. It presents some new solutions and methods which include both static and kinematic aspects of the problem, and some original effective methods for investigating media of limited cohesion. The final chapter gives a systematic account of the mechanics of highly dispersed soils, commonly called clays.

Journal of the Geotechnical Engineering Division

Methods of Foundation Engineering covers the theory, analysis, and practice of foundation engineering, as well as its soil mechanics and structural design aspects and principles. The book is divided into five parts encompassing 21 chapters. Part A is of an introductory character and presents a brief review of the various types of foundation structures used in civil engineering and their historical development. Part B provides the theoretical fundamentals of soil and rock mechanics, which are

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of importance for foundation design. Part C deals with the design of the footing area of spread footings and discusses the shallow foundation methods. Part D describes the methods of deep foundations, while Part E is devoted to special foundation methods. Each chapter in Parts C to E starts with an introduction containing a synopsis of the matter being discussed and giving suggestions as to the choice of a suitable method of foundation. This is followed by a description of the methods generally used in practice. Simple analyses of structures, presented at the conclusion of each chapter, can be carried out by a pocket calculator. This book will prove useful to practicing civil and design engineers.

Rock and Soil Mechanics

Rock Mechanics in Civil and Environmental Engineering

Geotechnical Engineer's Portable Handbook

This book is intended to be a text for undergraduate students of coastal engineering. It also serves as a reference for graduate students building on a basic foundation in coastal engineering. Finally, it makes an excellent guide for people in

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related disciplines. Coastal managers may use the book to cover the more theoretical and engineering-related aspects of their trade. Its subject matter is of interest to geographers, planners and coastal scientists alike.

Analysis and Design of Energy Geostructures

Appropriate for courses in Structural Dynamics, Earthquake Engineering or Seismology. This is the first book on the market focusing specifically on the topic of geotechnical earthquake engineering. Also covers fundamental concepts in seismology, geotechnical engineering, and structural engineering.

Embankments on Organic Soils

A well-written, hands-on, single-source guide to the professional practice of civil engineering. There is a growing understanding that to be competitive at an international level, civil engineers not only must build on their traditional strengths in technology and science but also must acquire greater mastery of the business of civil engineering. Project management, teamwork, ethics, leadership, and communication have been defined as essential to the successful practice of civil engineering by the ASCE in the 2008 landmark publication, Civil Engineering Body of Knowledge for the 21st Century (BOK2). This single-source guide is the first to

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take the practical skills defined by the ASCE BOK2 and provide illuminating techniques, quotes, case examples, problems, and information to assist the reader in addressing the many challenges facing civil engineers in the real world. Civil Engineer's Handbook of Professional Practice: Focuses on the business and management aspects of a civil engineer's job, providing students and practitioners with sound business management principles Addresses contemporary issues such as permitting, globalization, sustainability, and emerging technologies Offers proven methods for balancing speed, quality, and price with contracting and legal issues in a client-oriented profession Includes guidance on juggling career goals, life outside work, compensation, and growth From the challenge of sustainability to the rigors of problem recognition and solving, this book is an essential tool for those practicing civil engineering.

Alkali-Activated Cements and Concretes

The non-destructive evaluation of civil engineering structures in reinforced concrete is becoming an increasingly important issue in this field of engineering. This book proposes innovative ways to deal with this problem, through the characterization of concrete durability indicators by the use of non-destructive techniques. It presents the description of the various non-destructive techniques and their combination for the evaluation of indicators. The processing of data issued from the combination of NDE methods is also illustrated through examples

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of data fusion methods. The identification of conversion models linking observables, obtained from non-destructive measurements, to concrete durability indicators, as well as the consideration of different sources of variability in the assessment process, are also described. An analysis of in situ applications is carried out in order to highlight the practical aspects of the methodology. At the end of the book the authors provide a methodological guide detailing the proposed non-destructive evaluation methodology of concrete indicators. Presents the latest developments performed in the community of NDT on different aspects Provides a methodology developed in laboratory and transferred onsite for the evaluation of concrete properties which are not usually addressed by NDT methods Includes the use of data fusion for merging the measurements provided by several NDT methods Includes examples of current and potential applications

Proceedings of the 5th Indian Young Geotechnical Engineers Conference (5IYGEC)

Principles of Geotechnical Engineering

During the last two decades rock mechanics in Europe has been undergoing some major transformation. The reduction of mining activities in Europe affects heavily

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on rock mechanics teaching and research at universities and institutes. At the same time, new emerging activities, notably, underground infrastructure construction, geothermal energy develop

Geotechnical Earthquake Engineering

A simplified approach to applying the Finite Element Method to geotechnical problems Predicting soil behavior by constitutive equations that are based on experimental findings and embodied in numerical methods, such as the finite element method, is a significant aspect of soil mechanics. Engineers are able to solve a wide range of geotechnical engineering problems, especially inherently complex ones that resist traditional analysis. Applied Soil Mechanics with ABAQUS® Applications provides civil engineering students and practitioners with a simple, basic introduction to applying the finite element method to soil mechanics problems. Accessible to someone with little background in soil mechanics and finite element analysis, Applied Soil Mechanics with ABAQUS® Applications explains the basic concepts of soil mechanics and then prepares the reader for solving geotechnical engineering problems using both traditional engineering solutions and the more versatile, finite element solutions. Topics covered include: Properties of Soil Elasticity and Plasticity Stresses in Soil Consolidation Shear Strength of Soil Shallow Foundations Lateral Earth Pressure and Retaining Walls Piles and Pile Groups Seepage Taking a unique approach, the author describes the general soil

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mechanics for each topic, shows traditional applications of these principles with longhand solutions, and then presents finite element solutions for the same applications, comparing both. The book is prepared with ABAQUS® software applications to enable a range of readers to experiment firsthand with the principles described in the book (the software application files are available under "student resources" at www.wiley.com/college/helwany). By presenting both the traditional solutions alongside the FEM solutions, Applied Soil Mechanics with ABAQUS® Applications is an ideal introduction to traditional soil mechanics and a guide to alternative solutions and emergent methods. Dr. Helwany also has an online course based on the book available at www.geomilwaukee.com.

Geotechnical Engineering Handbook

The science and technology of coastal and ocean engineering are closely related to harbour and fishery engineering, because they share a common basic knowledge. However, whereas various publications of coastal engineering, harbour engineering, and ocean engineering have described just the knowledge in their own respective fields, an interrelated and systematic presentation linking them together has yet to be attempted. This book is the first attempt to systematically combine the fields of coastal, ocean, harbour, and fishery engineering from an engineering viewpoint backed by hydrodynamics. Understanding the interaction of waves with structures and sediment, and predicting the associated responses of

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interest, underlie nearly every problem in coastal and ocean engineering. This is precisely the goal of this book. Although primarily intended for use as a special textbook for graduate students and senior practising engineers, it is hoped that this book will also serve as a useful reference and assist in the further development of this field. With these objectives in mind, each chapter deals with important problems to be solved in the near future. The references included in each chapter should aid students and practising engineers in further broadening their knowledge. This book is the English translation of the original Japanese version published in May, 1991, commemorating the author's retirement from Osaka University. ``Elsevier will be named copyright holder of the English translated publication of the Work. This grant by Gihodo Publishers Ltd. (GP) only pertains to the English language version of the Work and no other rights, except to publish the Work in the English language, are granted to Elsevier Science (ES) by GP, which is acknowledged by ES to be the original copyright holder in the Work."

Fundamentals of Discrete Element Methods for Rock Engineering: Theory and Applications

Soil Physics: Selected Topics covers the results in the research field of soil physics, soil mechanics, and the behavior of real soils. This book is divided into six chapters and begins with an introduction to the study of the physical characteristics of soil

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and the complexity of superstructure of soil mechanics. The next chapter deals with the distribution of coarse grains according to their volume and the distribution of pore sizes in fine-grained materials. This chapter also describes the properties of granular mixtures and the compatibility of transition soils. The discussion then shifts to investigation of soil strength, particularly the strength of sand and transition soils, the tensile and shear strengths of cohesive soils, and brittle failure of soils. The remaining chapters consider the classification of soil phase movement phenomena. This book is intended primarily for practicing civil engineers.

Geotechnical Investigations and Improvement of Ground Conditions

Developments in Geotechnical Engineering, Volume 7: Limit Analysis and Soil Plasticity covers the theory and applications of limit analysis as applied to soil mechanics. Organized into 12 chapters, the book presents an introduction to the modern development of theory of soil plasticity and includes rock-like material. The first four chapters of the book describe the technique of limit analysis, beginning with the historical review of the subject and the assumptions on which it is based, and then covering various aspects of available techniques of limit analysis. The subsequent chapters deal with the applications of limit analysis to what may be termed “classical soil mechanics problems that include bearing capacity of

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footings, lateral earth pressure problems, and stability of slopes. In many cases, comparisons of limit analysis solution and conventional limit equilibrium and slip-like solutions are also presented. Other chapters deal with the advances in bearing-capacity problem of concrete blocks or rock and present theoretical and experimental results of various concrete bearing problems. The concluding chapter examines elastic-plastic soil and elastic-plastic-fracture models for concrete materials. This book is an ideal resource text to geotechnical engineers and soil mechanics researchers.

Foundation Engineering

The object of this book is to shed light on the most important design aspects encountered in foundation engineering and to present basic design principles representative of the developed part of the world. Modern geotechnical investigation methods and their interpretation are exemplified. The philosophy of the new European code for geotechnical design is presented. The most important and practical aspects of ground modification techniques are included. This book can be used as a textbook for senior undergraduate and graduate students. It can also serve as a combined text- and handbook for professional engineers working in the field of geotechnical engineering. Line drawings and photographs accompany the text.

Underground Engineering

Creep of Soils

The new social and economic era calls for integration of ecology and economy in a system of cause and effect. The central element in this shift is sustainable development. Fundamental to the achievement of sustainable development is the requirement for environmentally responsible waste management and restoration of the environment. Solutions to the complex problems confronted by waste management and environmental restoration industry are currently handled by the geoenvironmental engineering profession that needs a good background in soil biology, chemistry, mechanics, mineralogy, and physics. In recognition of this need, this book summarizes relevant aspects of various soil physics, mineralogy, and chemistry as well as the chemistry of pollutants. This treatment will provide sufficient background to students and practicing engineers to enable them to think about how to approach waste management and environmental restoration problems.

Geotechnical Engineering Calculations and Rules of Thumb

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Volume 2 of the Handbook covers the geotechnical procedures used in manufacturing anchors and piles as well as for improving or underpinning foundations, securing existing constructions, controlling ground water, excavating rocks and earth works. It also treats such specialist areas as the use of geotextiles and seeding.

Rock Mechanics and Strata Control in Mining and Geotechnical Engineering

An interdisciplinary introduction to key-concepts and project applications of energy geostructures

Coastal Engineering - Waves, Beaches, Wave-Structure Interactions

Numerical Methods and Implementation in Geotechnical Engineering explains several numerical methods that are used in geotechnical engineering. The first part of this reference set includes methods such as the finite element method, distinct element method, discontinuous deformation analysis, numerical manifold method, smoothed particle hydrodynamics method, material point method, plasticity method, limit equilibrium and limit analysis, plasticity, slope stability and

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foundation engineering, optimization analysis and reliability analysis. The authors have also presented different computer programs associated with the materials in this book which will be useful to students learning how to apply the models explained in the text into practical situations when designing structures in locations with specific soil and rock settings. This reference book set is a suitable textbook primer for civil engineering students as it provides a basic introduction to different numerical methods (classical and modern) in comprehensive readable volumes.

Proceedings of China-Europe Conference on Geotechnical Engineering

This book presents some fundamental concepts behind the basic theories and tools of discrete element methods (DEM), its historical development, and its wide scope of applications in geology, geophysics and rock engineering. Unlike almost all books available on the general subject of DEM, this book includes coverage of both explicit and implicit DEM approaches, namely the Distinct Element Methods and Discontinuous Deformation Analysis (DDA) for both rigid and deformable blocks and particle systems, and also the Discrete Fracture Network (DFN) approach for fluid flow and solute transport simulations. The latter is actually also a discrete approach of importance for rock mechanics and rock engineering. In addition, brief

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introductions to some alternative approaches are also provided, such as percolation theory and Cosserat micromechanics equivalence to particle systems, which often appear hand-in-hand with the DEM in the literature. Fundamentals of the particle mechanics approach using DEM for granular media is also presented. · Presents the fundamental concepts of the discrete models for fractured rocks, including constitutive models of rock fractures and rock masses for stress, deformation and fluid flow · Provides a comprehensive presentation on discrete element methods, including distinct elements, discontinuous deformation analysis, discrete fracture networks, particle mechanics and Cosserat representation of granular media · Features constitutive models of rock fractures and fracture system characterization methods detailing their significant impacts on the performance and uncertainty of the DEM models

Journal of Geotechnical Engineering

The first English-language book which reviews and summarizes worldwide research advances in alkali-activated cements and concrete. Essential topics include: raw materials and their properties for the production of the two new types of binder the hydration and microstructure development of alkali-activated slag cements the mechanical properties and durability of alkali-activated slag cement and concrete other various cementing systems and their applications related standards and specifications. This respected team of authors has produced an important piece of

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research that will be of great interest to professionals and academics alike, enabling the production of more durable and environmentally sensitive materials.

Proceedings of the Annual Symposium on Engineering Geology & Geotechnical Engineering

Written by a leader on the subject, Introduction to Geotechnical Engineering is first introductory geotechnical engineering textbook to cover both saturated and unsaturated soil mechanics. Destined to become the next leading text in the field, this book presents a new approach to teaching the subject, based on fundamentals of unsaturated soils, and extending the description of applications of soil mechanics to a wide variety of topics. This groundbreaking work features a number of topics typically left out of undergraduate geotechnical courses.

Non-destructive Testing and Evaluation of Civil Engineering Structures

Written in a concise, easy-to-understand manner, INTRODUCTION TO GEOTECHNICAL ENGINEERING, 2e, presents intensive research and observation in the field and lab that have improved the science of foundation design. Now providing both U.S. and SI units, this non-calculus-based text is designed for

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courses in civil engineering technology programs where soil mechanics and foundation engineering are combined into one course. It is also a useful reference tool for civil engineering practitioners. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

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