

Soils And Foundations For Architects And Engineers

Master the core concepts and applications of foundation analysis and design with Das/Sivakugan's best-selling PRINCIPLES OF FOUNDATION ENGINEERING, 9th Edition. Written specifically for those studying undergraduate civil engineering, this invaluable resource by renowned authors in the field of geotechnical engineering provides an ideal balance of today's most current research and practical field applications. A wealth of worked-out examples and figures clearly illustrate the work of today's civil engineer, while timely information and insights help readers develop the critical skills needed to properly apply theories and analysis while evaluating soils and foundation design. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Seismic Design for Architects shows how structural requirements for seismic resistance can become an integral part of the design process. Structural integrity does not have to be at the expense of innovative, high standard design in seismically active zones. * By emphasizing design and discussing key concepts with accompanying visual material, architects are given the background knowledge and practical tools needed to deal with aspects of seismic design at all stages of the design process * Seismic codes from several continents are drawn upon to give a global context of seismic design * Extensively illustrated with diagrams and photographs * A non-mathematical approach focuses upon the principles and practice of seismic resistant design to enable readers to grasp the concepts and then readily apply them to their building designs Seismic Design for Architects is a comprehensive, practical reference work and text book for students of architecture, building science, architectural and civil engineering, and professional architects and structural engineers.

The new industry standard on landscape architectural detailing Detailing for Landscape Architects takes the reader on an educational journey across three major areas of landscape architectural detailing—aesthetics, function, and constructibility—to demonstrate how powerful design patterns can transform thematic ideas into awe-inspiring built realities. Richly illustrated examples accompany concise discussions of a varied blend of landscape design/detailing issues such as water movement, soil environments, articulating structures and construction assemblies, life cycle costing, sustainability, health and safety, and more. This book approaches the subject of detailing in a systematic manner, and provides a balanced framework for design and workmanship that conveys the essence of the built landscape. Detailing for Landscape Architects shows how details can: Reinforce design ideas through the continuity and discontinuity of patterns Actively contribute to the overall form or geometry of the design Be designed to be durable and flexible while enhancing the entire design Gracefully accommodate the natural growth and change of plant materials Anticipate maintenance needs to minimize future disruptions Maximize their cost effectiveness through understanding their function while designing to meet those functions Including chapters that apply detail patterns to the design of an urban plaza, a roof deck, and a residence, Detailing for Landscape Architects offers guidance on solving specific technical requirements, while preserving and enhancing the visual qualities that celebrate innovation, and carry forth a timeless quality of building.

A must have reference for any engineer involved with foundations, piers, and retaining walls, this remarkably comprehensive volume illustrates soil characteristic concepts with examples that detail a wealth of practical considerations, It covers the latest developments in the design of drilled pier foundations and mechanically stabilized earth retaining wall and explores a pioneering approach for predicting the nonlinear behavior of laterally loaded long vertical and batter piles. As complete and authoritative as any volume on the subject, it discusses soil formation, index properties, and classification; soil permeability, seepage, and the effect of water on stress conditions; stresses due to surface loads; soil compressibility and consolidation; and shear strength characteristics of soils. While this book is a valuable teaching text for advanced students, it is one that the practicing engineer will continually be taking off the shelf long after school lets out. Just the quick reference it affords to a huge range of tests and the appendices filled with essential data, makes it an essential addition to an civil engineering library.

Ideal for undergraduates of geotechnical engineering for civil engineers, this established textbook sets out the basic theories of soil mechanics in a clear and straightforward way; combining both classical and critical state theories and giving students a good grounding in the subject which will last right through into a career as a geotechnical engineer. The subject is broken down into discrete topics which are presented in a series of short, focused chapters with clear and accessible text that develops from the purely theoretical to discussing practical applications. Soil behaviour is described by relatively simple equations with clear parameters while a number of worked examples and simple experimental demonstrations are included to illustrate the principles involved and aid reader understanding.

Geotechnical Fundamentals and Applications in Construction. New Materials, Structures, Technologies and Calculations contains the papers presented at the International Conference on Geotechnical Fundamentals and Applications in Construction. New Materials, Structures, Technologies and Calculations (GFAC 2019, Saint Petersburg, Russia, 6-8 February 2019). The contributions present the latest research findings, developments, and applications in the areas of geotechnics, soil mechanics, foundations, geological engineering and share experiences in the design of complex geotechnical objects, and are grouped in 8 sections: • Analytical decisions and numerical modeling for foundations; • Design and construction in geologically hazardous conditions; • Methods for surveying the features of dispersed, rocky soils and structurally unstable soils; • Exploration, territory improvement and reconstruction in conditions of compact urban planning and enterprises, etc.; • Construction, reconstruction and exploitation of infrastructure facilities in different soil conditions; • R&D support and quality control of new materials, design and technology solutions in constructing bases, foundations, underground and surface constructions; • Condition survey and accident evolution analysis in construction; • Up-to-date monitoring techniques in building construction and exploitation. Geotechnical Fundamentals and Applications in Construction. New Materials, Structures, Technologies and Calculations collects the state-of-the-art in geotechnology and construction, and will be of interest to academia and professionals in geotechnics, soil mechanics, foundation engineering and geological engineering.

This book covers the field of applied geotechnology related to all aspects of construction in ground, including compacted fill, excavations, ground improvement, foundations, earth retaining systems and geotechnical site characterization. It suits the first year of a graduate course on ground improvement and geoconstruction and will suit practicing engineers, both consultants and contractors. Distinctively it covers the identification of problematic soils and appropriate mitigation measures, and the inspection of ground construction work. It combines the technical and the practical in applied geotechnology.

The structural engineer responsible for Chicago's John Hancock Center and Sears Tower, Fazlur R. Khan (1929-1982) pioneered structural systems for high-rise design that broadened the palette of building forms and expressions available to design professionals today.

The book offers a systematic analysis of footings (i.e. shallow foundations) in a realistic way, using constitutive relationships of the soil. The aim of the book is to deal with the theme holistically, involving the determination of the constitutive law of the soil, and then proportioning the footing occurring in different situations in actual practice. The book has eleven chapters. After giving an introduction and scope of the book in the first chapter, second and third chapters are respectively devoted to constitutive laws of soil and basic stress equations. In the third chapter analysis of strip footings subjected to central vertical load has been dealt. This analysis has been extended for eccentric –inclined load in the fifth chapter. Since problems of shallow foundations resting adjacent to a slope are of prime importance, this aspect has been dealt in sixth chapter. In the seventh chapter, analysis pertaining to square and rectangular footings have been presented. Effect of interference between adjacent footing is covered in chapter eight. Since ring footings are usually provided for tanks, silos, towers etc., ninth chapter is devoted to this. Added attraction of the book is its chapter ten in which footings located in seismic regions have been covered. Effect of embedment below the ground surface on the behavior of footings located both in non-seismic and seismic regions has been dealt in the chapter eleven. The book is intended for senior undergraduate, postgraduate and Ph.D. students of civil engineering, research scholars, practicing engineers, teachers and academicians. The analyses are based on the latest information available. A number of illustrated examples have been included in the text. SI units have been used in the book.

One of the core roles of a practising geotechnical engineer is to analyse and design foundations. This textbook for advanced undergraduates and graduate students covers the analysis, design and construction of shallow and deep foundations and retaining structures as well as the stability analysis and mitigation of slopes. It progressively introduces critical state soil mechanics and plasticity theories such as plastic limit analysis and cavity expansion theories before leading into the theories of foundation, lateral earth pressure and slope stability analysis. On the engineering side, the book introduces construction and testing methods used in current practice. Throughout it emphasizes the connection between theory and practice. It prepares readers for the more sophisticated non-linear elastic-plastic analysis in foundation engineering which is commonly used in engineering practice, and serves too as a reference book for practising engineers. A companion website provides a series of Excel spreadsheet programs to cover all examples included in the book, and PowerPoint lecture slides and a solutions manual for lecturers. Using Excel, the relationships between the input parameters and the design and analysis results can be seen. Numerical values of complex equations can be calculated quickly. non-linearity and optimization can be brought in more easily to employ functioned numerical methods. And sophisticated methods can be seen in practice, such as p-y curve for laterally loaded piles and flexible retaining structures, and methods of slices for slope stability analysis.

Soils and Foundations for Architects and Engineers, Second Edition is a practical guide to the technology of soil mechanics and foundations, and the application of that technology to the design and construction process. This text provides an up-to-date overview of the classification of soils, the design of foundations, and the behavior of soils under load. Particular emphasis has been given to the subject of piles, piers, and caissons, and to the design and details of construction of basement and retaining walls. New to this edition: Expanded coverage of shear strength of soils, settlement analysis, and expansive soil. Design requirements for prestressed tiebacks, tiedowns, and rock anchors. Expansion of information on pile driving techniques including the use of the Engineering News Formula. A table of British-metric conversions. Many new solved problems and illustrations. In addition to the numerous new improvements, the author also includes: effects of high water tables on architectural and engineering considerations, design of shear keys used in the transfer of lateral earth pressure from a wall to the supporting element, various drainage alternatives to the structural treatment of adjacent footings, and much more. Soils and Foundations for Architects and Engineers, Second Edition can be used in advanced undergraduate and graduate level courses offered in architectural engineering and civil engineering, as well as be used as a reference book by practicing architects, insurance adjusters and attorneys who litigate or adjudicate claims involving soils and foundations.

Translated from the second Russian edition of 1988. Parts 2, "Soil mechanics" and 3, "Foundations and footings" are revised and updated versions of the first Russian edition of 1981. Part 1, "Special course in engineering geology," contains a discussion of physicommechanical properties of soil, geody

For courses in Soil Mechanics and Foundations. Essentials of Soil Mechanics and Foundations: Basic Geotechnics, Seventh Edition, provides a clear, detailed presentation of soil mechanics: the background and basics, the engineering properties and behavior of soil deposits, and the application of soil mechanics theories. Appropriate for soil mechanics courses in engineering, architectural and construction-related programs, this new edition features a separate chapter on earthquakes, a more logical organization, and new material relating to pile foundations design and construction and soil permeability. It's rich applications, well-illustrated examples, end-of-chapter problems and detailed explanations make it an excellent reference for students, practicing engineers, architects, geologists, environmental specialists and more.

Soil-Foundation-Structure Interaction contains selected papers presented at the International Workshop on Soil-Foundation-Structure Interaction held in Auckland, New Zealand from 26-27 November 2009. The workshop was the venue for an international exchange of ideas, disseminating information about experiments, numerical models and practical en

The gold-standard design and documentation reference for students Architectural Graphic Standards, Student Edition condenses key information from the definitive industry reference to provide students with a powerful learning resource. Covering design and documentation for a variety of projects, this book offers extensive visuals backed by expert discussion to prepare students for work in a modern professional practice. This new 12th edition has been significantly updated to provide the latest information on important architectural developments and movements, with detailed coverage of sustainability, economy, technology, and more alongside current building standards and best practices. The companion website features sample curricula, student exercises, and classroom projects to aid the understanding of developing designers, and links to additional resources include professional associations, manufacturers' websites, and architectural articles to help students stay up-to-date as the field continues to evolve. Architectural Graphic Standards is the gold-standard reference for practicing architects, engineers, and builders; this Student Edition introduces key elements in a way that's relevant to the budding designer, along with ancillary materials that facilitate internalization. Delve into the design and documentation process for building materials and elements, as used in today's real-world practice Discover the latest advances in sustainability, digital fabrication, building information modeling, and more Learn the building standards and best practices for a wide variety of architectural details Examine thousands of illustrations, richly detailed graphics, PowerPoint slides, and links to additional resources Simply "knowing" graphic and documentation standards is not enough; future architects and engineers must develop an instinctual understanding and reflexive use of much of this material. Architectural Graphic Standards, Student Edition provides the depth and breadth of coverage they need, and the expert guidance that will help them succeed.

The new student edition of the definitive architectural reference For seventy-five years, Architectural Graphic Standards has been the go-to reference for architects, builders, and engineers. Revised for the first time since 2000, Architectural Graphic Standards, Student Edition gives students their own handy resource. Carefully abridged from the Eleventh Edition of Architectural Graphic Standards, this Student Edition features the same richly detailed graphics and text that have made Architectural Graphic Standards a classic, but updated and reorganized in a way that is relevant to today's student. Thousands of illustrations and a rich index offer immediate access to hundreds of architectural elements, while the wide variety of topics covered makes this work relevant throughout a student's architecture education and into the early stages of professional practice. With a wealth of information for the student preparing for professional practice, this new edition:

- * Covers building standards and practices, materials and systems, and details for every type of project
- * Follows CSI's Unifomat, a classification system that closely matches an architect's workflow
- * Features completely updated content with a wide variety of standard architectural details
- * Offers an ancillary Web site featuring sample curriculums, student exercises, classroom projects, PowerPoint(r) slides, and more

"Essentials of Soil Mechanics and Foundations: Basic Geotechnics, 7/e" provides a clear, detailed presentation of soil mechanics: the background and basics, the engineering properties and behavior of soil deposits, and the application of soil mechanics theories. This new edition features a separate chapter on earthquakes, a more logical organization, and new material relating to pile foundations design and construction and soil permeability. It's rich applications, well illustrated examples, end-of-chapter problems and detailed explanations make it an excellent reference for practicing engineers, architects, geologists, environmental specialists, and more! Covers new developments in geotechnical topics such as: Soil Properties and Analyses Pile Foundation Design and Testing Micropiles Soil Nail Walls Launched Soil Nails Soil Improvement Includes a more extensive scope of topics and clear, well developed presentations. Emphasizes how subject material can be used in the field. An excellent reference for practicing engineers, architects, geologists, environmental specialists and construction materials testing laboratories. Discusses structural failures of parking garages, bridges, septic systems, hotels, prefabricated metal buildings, hospitals, sewage treatment plants, industrial buildings, apartment houses, warehouses, grandstands, single-family residences, stadiums, power plants, shopping centers, grain silos, university buildings, and pavement for a plaza.

This book has gathered state-of-the-art knowledge of various experts who had worked and gained extensive experience in foundation engineering in tropical residual soils.

Soils and Foundations for Architects and Engineers Springer

The series comprises selected translations of Russian geotechnical literature, and this is a translation of a 1989 second edition reference. Coverage includes laws governing expansion and contraction of argillaceous soils, principles governing deformation of soil mass and foundations during soil exp

Since 1932, the ten editions of Architectural Graphic Standards have been referred to as the "architect's bible." From site excavation to structures to roofs, this book is the first place to look when an architect is confronted with a question about building design. With more than 8,000 architectural illustrations, including both reference drawings and constructible architectural details, this book provides an easily accessible graphic reference for highly visual professionals. To celebrate seventy-five years as the cornerstone of an industry, this commemorative Eleventh Edition is the most thorough and significant revision of Architectural Graphic Standards in a generation. Substantially revised to be even more relevant to today's design professionals, it features:

- An entirely new, innovative look and design created by Bruce Mau Design that includes a modern page layout, bold second color, and new typeface
- Better organized-- a completely new organization structure applies the UniFormat(r) classification system which organizes content by function rather than product or material
- Expanded and updated coverage of inclusive, universal, and accessible design strategies
- Environmentally-sensitive and sustainable design is presented and woven throughout including green materials, LEEDS standards, and recyclability

A bold, contemporary new package--as impressive closed as it is open, the Eleventh Edition features a beveled metal plate set in a sleek, black cloth cover Ribbon Markers included as a convenient and helpful way to mark favorite and well used spots in the book All New material Thoroughly reviewed and edited by hundreds of building science experts and experienced architects, all new details and content including: new structural technologies, building systems, and materials emphasis on sustainable construction, green materials, LEED standards, and recyclability expanded and updated coverage on inclusive, universal, and accessible design strategies computing technologies including Building Information Modeling (BIM) and CAD/CAM new information on regional and international variations accessibility requirements keyed throughout the text new standards for conducting, disseminating, and applying architectural research New and improved details With some 8,500 architectural illustrations, including both reference drawings and constructible architectural details, Architectural Graphic Standards continues to be the industry's leading, easily accessible graphic reference for highly visual professionals.

Knowledge surrounding the behavior of earth materials is important to a number of industries, including the mining and construction industries. Further research into the field of geotechnical engineering can assist in providing the tools necessary to analyze the condition and properties of the earth. Technology and Practice in Geotechnical Engineering brings together theory and practical application, thus offering a unified and thorough understanding of soil mechanics. Highlighting illustrative examples, technological applications, and theoretical and foundational concepts, this book is a crucial reference source for students, practitioners, contractors, architects, and builders interested in the functions and mechanics of sedimentary materials.

Translated from the Russian, this English edition of the text has been revised and updated. It covers such topics as: reasons for strengthening bases and foundations of buildings; behavioural features and foundations of in-service buildings; and stabilization of soils.

The new student edition of the definitive reference on landscape architecture Landscape Architectural Graphic Standards, Student Edition is a condensed treatment of the authoritative Landscape Architectural Graphic Standards, Professional Edition. Designed to give students the critical information they require, this is an essential reference for anyone studying landscape architecture and design. Formatted to meet the serious student's needs, the content in this Student Edition reflects topics covered in accredited landscape architectural programs, making it an excellent choice for a required text in landscape architecture, landscape design, horticulture, architecture, and planning and urban design programs. Students will gain an understanding of all the critical material they need for the core classes required by all curriculums, including:

- * Construction documentation
- * Site planning
- * Professional practice
- * Site grading and earthwork
- * Construction principles
- * Water supply and management
- * Pavement and structures in the landscape
- * Parks and recreational spaces
- * Soils, asphalt, concrete, masonry, metals, wood, and recreational surfaces
- * Evaluating the environmental and human health impacts of materials

Like Landscape Architectural Graphic Standards, this Student Edition provides essential specification and detailing information on the fundamentals of landscape architecture, including sustainable

design principles, planting (including green roofs), stormwater management, and wetlands construction and evaluation. In addition, expert advice guides readers through important considerations such as material life cycle analysis, environmental impacts, site security, hazard control, environmental restoration and remediation, and accessibility. Visit the Companion web site: wiley.com/go/landscapearchitecturalgraphicstandards

Soils and Foundations for Architects and Engineers provides in-depth, yet simplified, information on the more commonly encountered aspects of soils mechanics and foundations. It also redefines and clarifies many frequently misunderstood aspects of soil mechanics and foundations such as the actual failure mode of footing due to excessive vertical or lateral pressure theory and the effect of groundwater.

The fully updated edition of the leading fundamentals book on site design and engineering Site Engineering for Landscape Architects, Fourth Edition continues a long tradition as the leading, comprehensive introduction to site engineering. This revised edition is fully updated to address emerging theories, applications, the increasing use of CAD and CAD-related technologies, and much more. From interpreting landform and contour lines to designing horizontal and vertical road alignments, from construction sequencing to designing storm water management systems, this Fourth Edition offers an integrated presentation of site engineering concepts essential to practicing landscape architecture today. Complete with new case studies and new material on soils and earthwork, erosion control, and site layout and horizontal control, it is also a perfect preparation guide for the most challenging section of the Landscape Architecture Registration Exam (LARE). In addition to helpful sample problems, calculations, and case studies, this updated Fourth Edition features a companion Web site (available at wiley.com/go/siteengineering) with expanded case studies and links to a variety of regulatory, site engineering, and software resources. Site Engineering for Landscape Architects, Fourth Edition makes it easier than ever for students and professionals to quickly master the principles and practices involved in today's environmentally sound site engineering.

Written in a clear, accessible style, this book covers the fundamental aspects of soil science with an emphasis on topics useful to landscape architects and professionals in related fields. The book begins with a discussion of soil surveys developed in different countries, followed by a concise description of soil components and how the interactions between air, water, and nutrients affect plant growth. It examines methods for controlling erosion, particularly in light of modern irrigation techniques. It describes the chemistry of plant growth, devotes four chapters to macro- and micro-nutrients, and features a detailed discussion of ways to diagnose and correct plant disorders. It also looks at the engineering aspects of soils and includes a detailed list of references for further information. Written by an experienced teacher with an extensive background in landscape architecture, this volume will be an invaluable source for students and researchers in architecture, horticulture, and urban planning.

Containing a complete list of the architects of the United States, Canada, Cuba and Porto Rico, classified by states and towns, etc.

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