

This accessible, clear, concise and contemporary text in geotechnical engineering design covers the major design topics, making it the one stop shop for students. Packed with self-test problems and projects, and with a detailed online solution manual, it presents the state of the art in geotechnical engineering practice.

Geotechnical Engineering Design explains fundamental design principles and approaches in geotechnical engineering, offering an introduction to engineering geology, subsurface explorations, shallow and deep foundations, slope stability analyses and remediation, filters and drains, earth retaining structures, geosynthetics, basic seismic evaluations of slope stability, lateral earth pressures, and liquefaction. Readers are expected to have taken a soil mechanics course and already understand the principles of engineering properties of soils. The book applies these principles and focuses on the design methodologies in geotechnical engineering.

Individual chapters present particular design approaches, followed by a detailed sample problem demonstrating it. The chapters begin by explaining why that design topic is important in engineering practice. Hundreds of illustrations on field applications and design approaches are provided throughout the text. Wherever designs are presented, sample problems and solutions are included and homework problems at the end of each chapter test students' basic understanding of the concepts and design approaches as well as challenging them to solve real-world design issues.

A unique aspect of the book is the inclusion of Eurocode 7: Geotechnical design, the European Standard for the design of geotechnical structures. The design approaches of many topics in this book use both limit state design (in Europe) and allowable stress design (in the USA) so two sets of solutions in many sample problems are provided to show both design methodologies. Both British Standards and American Society for Testing and Materials (ASTM) standards are referred to. This allows an international audience to understand the commonalities and differences in geotechnical engineering designs worldwide.

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This book's companion website www.wiley.com/go/Xiao provides you with a detailed solutions manual and resources to further your understanding of geotechnical engineering design:

- Solutions to the end-of-chapter Homework Problems, including the full workings
- A suite of Excel files which map onto the Sample Problems, showing how they are solved
- PowerPoint slides with full colour versions of all photographs, figures and tables



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