

Preface

Geotechnical engineering plays a crucial role in the design, construction, and maintenance of civil infrastructure. It encompasses the study of soil and rock mechanics, as well as their interaction with structures and the environment. As a multidisciplinary field, geotechnical engineering requires a comprehensive understanding of geology, engineering mechanics, materials science, and so on. The development and advancement of geotechnical engineering have led to the emergence of new theories, methods, and technologies. It is essential to document and disseminate this knowledge to students and researchers in the form of textbooks. Geotechnical engineering textbooks serve as a fundamental resource for acquiring theoretical knowledge, practical skills, and problem-solving abilities.

The principal purpose of writing this book is to provide students with a structured and systematic approach to learning the subject. By presenting the fundamental principles, theories, and methodologies, this book lays the foundation for further studies and research. This book also provides a comprehensive overview of the current state of the field, including recent advancements and innovative techniques. It also encompasses a wide range of technical terms and specialized vocabulary. By providing clear and concise explanations of these terms, it helps students learn to master the English knowledge. This book refers to many contents by many world-famous researchers, and I would like to express my sincere gratitude to the researchers whose work has been referenced in this book. Their contributions to the field of geotechnical engineering have greatly influenced and enriched the content of this publication.

I would also like to extend my appreciation and gratitude to all those who have contributed to the creation and development of this book. First and foremost, I would like to express my sincere gratitude to my postdoctoral co-supervisor, Cai Meifeng, whose invaluable expertise, guidance, and support have been instrumental in shaping the content and structure of this book. Furthermore, I would like to thank the students who participated in the pilot testing and provided invaluable feedback. Their constructive criticism and suggestions by Ma Chi, Liu Cao, Qi Zhenwu, Zhang Bo, Liu Qingru, Fu Yilin, Huang Boran, and Huang Hao have significantly enhanced the clarity and effectiveness of the material. I am indebted to Nie Wei and the publishing team at China Architecture & Building Press for their continuous support, meticulous editing, and dedication throughout the production process. Their attention to detail and commitment to excellence have been pivotal in bringing this textbook to fruition.

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knowledge.

Although we have worked hard to make this book as comprehensive as possible, we recognize that a book about such a hot topic will not be up-to-date for very long. If you have comments, questions or suggestions for improvement, we are welcome. We anticipate updating this book in the future, and we look forward to hearing how you have used these materials and how we might improve this book.

Wang Peitao

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