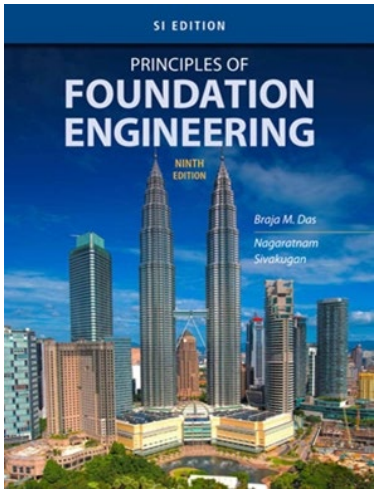
MindTap Quick Start Guide



Principles of Foundation Engineering, SI Edition, 9th Edition
Braja M. Das, Nagaratnam Sivakugan

A must-have resource for all foundation engineering courses, PRINCIPLES OF FOUNDATION ENGINEERING, 9th Edition provides a careful balance between current research and practical field applications as it introduces civil engineering students to the core concepts and applications of foundation analysis design. Throughout this best-selling book, Dr. Das and Dr. Sivakugan emphasize how to develop the critical judgment civil engineers need to properly apply theories and analysis to the evaluation of soils and foundation design.

3 Key Features

Activity	Where to find it – an example	What is it	Why it matters
Algorithmic Problem Sets	1. **Part 1: Geotechnical Properties and Soil Exploration** 2. Chapter 2: Geotechnical Properties of Soil 3. **Chapter 2 Problem Set** 4. Click on Start Assignment Now	Algorithmically-generated problem sets can regenerate, with new numbers each time. Student solutions are automatically graded, and detailed solutions are provided for incorrect answers.	Because the numeric values can regenerate over and over again, these problem sets maximize students' opportunities to practice. You, as the instructor, can be confident knowing each student is receiving unique problems to solve.
Videos	1. **Part 1: Geotechnical Properties and Subsoil Exploration** 2. Chapter 3: Natural Soil Deposits and Subsoil Exploration 3. **Chapter 3 Videos** 4. Soil Origin and Soil Dynamics *See it in the Cengage Mobile app*	Videos illustrating engineering concepts and real-world applications can be found in the learning path of relevant chapters.	Videos serve to reinforce what is introduced in the readings. With the addition of the video content, the student is not just reading – he or she is also watching, listening, and thinking about how abstract engineering concepts inform real-world practice.
CNOW question sets	1. **Part 3: Foundation Analysis** 2. Chapter 6: Shallow Foundations: Ultimate Bearing Capacity 3. **Chapter 6 Quiz** 4. Click on Start Assignment Now	Students can upload and submit practice assignments via a drop box integrated within MindTap.	Provide opportunities for practice. This feature enables students to submit papers, reflections and other kinds of written materials as suggested or required by the instructor.

Das/Sivakugan, *Principles of Foundation Engineering,* 9e

MindTap Asset Description

Activity	How many?	What is it?	Seat time?	Why it matters?
eBook Chapter	19	The MindTap Reader contains all content from the printed text. The MindTap Reader also allows students to make notes and highlights in-text, (which are automatically captured and hyperlinked in the StudyHub app), view notes and content added by the instructor, and even have the content read aloud to them.	45-60 Minutes	Readings provide the foundation of knowledge needed to successfully complete quizzes, problem sets, and in-class work, setting your students up for success.
Algorithmic Problem Sets	17	Algorithmically-generated problem sets can regenerate, with new numbers each time. Student solutions are automatically graded, and detailed solutions are provided for incorrect answers.	Varies by student	Because the numeric values can regenerate over and over again, these problem sets maximize students' opportunities to practice. You, as the instructor, can be confident knowing each student is receiving unique problems to solve.
Quiz (CNOW)	19	Automatically graded quizzes assess understanding of the chapter. They include feedback for correct and incorrect answers, and explain where to find more information in the text by linking a specific section.	Varies by student	Measure how well the student mastered the material after completing each MindTap chapter. Helps the student study more efficiently by identifying gaps in their knowledge and pointing to the relevant portion of the text.

Drop-box assignment (practice)(CNOW)	19	Students can upload and submit practice assignments via a drop box integrated within MindTap.	Varies by student	Provide opportunities for practice. This feature enables students to submit papers, reflections and other kinds of written materials as suggested or required by the instructor.
Reflective Questions	18	Short structured activities used in most chapters. Questions ask students what they did to prepare for quizzes or problem sets, where they made errors, and what they can do differently next time.	Varies by student	Research has found these type of "wrapper" questions improve student learning. They help students focus on how they study and the relative effectiveness of those study habits.
Videos	107	Videos illustrating engineering concepts and real-world applications can be found in the learning path of relevant chapters.	0:17-39:23	Videos serve to reinforce what is introduced in the readings. With the addition of the video content, the student is not just reading – he or she is also watching, listening, and thinking about how abstract engineering concepts inform real-world practice.
Links	22	Links to websites and other resources.	Varies by student	Provide students with additional resources to enhance their understanding of topics.
Image Galleries	4	Galleries containing photos detailing several topics discussed in the text.	Varies by student	These galleries help illustrate many important concepts visually, allowing students to see real-world applications of foundation engineering.
Flashcards	294	Flashcards that help students learn definitions of core concepts and key terms. Students can also create and add their own cards to the stack.	Varies by student	Self-testing via flashcards (not for grades) is validated by robust research. The act of calling information to mind strengthens that knowledge and aids in future retrieval making flashcards an important learning tool.
Glossary	1	A list of key terms found throughout the book and their definitions.	Varies by student	The glossary can help students if they need to look up the definitions to various key terms used within the text.
Getting Started with MindTap Videos	2	Videos that introduce students and instructors to the MindTap platform.	3:12-4:35	These videos teach how to effectively navigate MindTap and its numerous components.

Chapter	MindTap Assignments
Chapter 1: Introduction	Image Gallery Videos Links Quiz Drop Box
Chapter 2: Geotechnical Properties of Soil	Image Gallery Videos Quiz Problem Set Reflective Questions Drop Box
Chapter 3: Natural Soil Deposits and Subsoil Exploration	Videos Links Quiz Problem Set Reflective Questions Drop Box
Chapter 4: Instrumentation and Monitoring in Geotechnical Engineering	Videos Links Quiz Reflective Questions Drop Box
Chapter 5: Soil Improvement and Ground Modification	Image Gallery Videos Links Quiz Problem Set Reflective Questions Drop Box
Chapter 6: Shallow Foundations: Ultimate Bearing Capacity	Videos Quiz Problem Set Reflective Questions Drop Box
Chapter 7: Ultimate Bearing Capacity of Shallow Foundations: Special Cases	Videos Links Quiz Problem Set Reflective Questions Drop Box

Chapter 8: Vertical Stress Increase in Soil	**Videos** **Quiz** **Problem Set** **Reflective Questions** **Drop Box**
Chapter 9: Settlement of Shallow Foundations	**Videos** **Links** **Quiz** **Problem Set** **Reflective Questions** **Drop Box**
Chapter 10: Mat Foundations	**Videos and Links** **Quiz** **Problem Set** **Reflective Questions** **Drop Box**
Chapter 11: Load and Resistance Factor Design (LRFD)	**Video** **Quiz** **Problem Set** **Reflective Questions** **Drop Box**
Chapter 12: Pile Foundations	**Image Gallery** **Videos** **Quiz** **Problem Set** **Reflective Questions** **Drop Box**
Chapter 13: Drilled Shaft Foundations	**Videos** **Links** **Quiz** **Problem Set** **Reflective Questions** **Drop Box**
Chapter 14: Piled Rafts – An Overview	**Videos** **Links** **Quiz** **Problem Set** **Reflective Questions** **Drop Box**
Chapter 15: Foundations on Difficult Soils	**Videos** **Quiz** **Problem Set** **Reflective Questions** **Drop Box**

Chapter 16: Lateral Earth Pressure	**Videos** **Quiz** **Problem Set** **Reflective Questions** **Drop Box**
Chapter 17: Retaining Walls	**Videos** **Quiz** **Problem Set** **Reflective Questions** **Drop Box**
Chapter 18: Sheet Pile Walls	**Videos** **Links** **Quiz** **Problem Set** **Reflective Questions** **Drop Box**
Chapter 19: Braced Cuts	**Videos** **Quiz** **Problem Set** **Reflective Questions** **Drop Box**