

MindTap Asset Description

Electrical Principles, 4th edition

Peter Phillips

Learning path location	Activity	How many	What it is	Seat time	Why it matters
ENGAGE	Chapter overview	Every chapter	An introduction to the key concepts covered in the chapter and an outline of what students will be able to do after reading the chapter.	5 mins	Introduces key chapter concepts and empowers the student to learn.
LEARN	Reading activity	Every chapter	This is where the core text content lives. It is an interactive eReader with integrated tools for students and instructors. Students can search, jump to sections, highlight, take notes, have the text read aloud, define words and more.	Varies by student 30-60 mins	Chapter readings provide students with a strong theoretical foundation. The instructors can assign the chapter readings to students and customise the content of the readings by adding videos, readings, and other instructor-created content.
	Key Points (in-line)	Every chapter (in-line)	Key Points are automatically graded assignments that assess students' basic understanding of key concepts presented in each section of the chapter.	2-3 mins per quiz (multiple quizzes per chapter)	These questions ensure that students are familiar with basic concepts before coming to class so you can go further with the time you have, building upon that base level of knowledge.
	Online resources	Every chapter	Features links to relevant websites that demonstrate and expand upon the chapter content. Also contains a prompt to complete the Downloadable Worksheet for that chapter.	15-20 mins	Extend the students' understanding of the chapter topic and encourage them to do further online research in the area.
APPLY	Worksheets	Every chapter	Downloadable worksheets which encourage students to work through selected additional questions. Includes Assessor Marking Guide at the end of each worksheet.	3-5 mins per question.	Worksheets allow students to put their learning into practice and check their understanding of key chapter concepts and equations.

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REVISE	Review exercises	Every chapter	Questions to assess student understanding of key elements and criteria of competency units	Varies by chapter. Approx. 30 minutes	Revision for preparation for final assessment
	Revision quiz	Every chapter	Interactive quizzes covering all chapter concepts are applied to Electrical scenarios and are automatically graded.	10 mins	These quizzes help to move students beyond basic understanding, requiring them to apply their knowledge rather than simply recalling information from the chapter.
VIDEO	Instructional video	In chapters 1, 3, 4, 5, 6, 7, 8, 11, 12, 16, 17, 18, 19, 20, 21, 22, 23 (also inline)	Short, fast-paced videos that are located in a Learning Path folder for the chapter, as well as being embedded throughout the interactive eReader.	1-5 minutes	Students often struggle with understanding Electrical terminology and concepts. These quick videos address this challenge in a fun, educational way.
App Dock – CNOW app	Testbank (for instructors only) Approx. 20 questions per chapter	Every chapter	Instructor assignable questions available through the CNOW app. Each chapter has approx: <ul style="list-style-type: none"> • 5 true/false questions • 10 multiple-choice questions • 5 short answer questions. 	Varies	These assessment questions help you create, customise and deliver tests in minutes. The CNOW app guides you step by step through the test-creation process.



MindTap Table of Contents

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Topic/Chapter	Suggested digital activities for homework and/or assessment	Seat time
Chapter 1 <i>The electric circuit</i>	Instructional video 1: Tong Test	1-5 mins
Chapter 2 <i>Voltage sources and effects of an electric current</i>	Readings, quizzes and other learning path features as per 'MindTap Learning Path'	
Chapter 3 <i>Ohm's law</i>	Instructional video 2: Hot Water Service	1-5 mins
Chapter 4 <i>Electrical power</i>	Instructional video 3: Numerical language of electrical power	1-5 mins
Chapter 5 <i>Resistance and resistors</i>	Instructional video 4: Power and the stove	1-5 mins
Chapter 6 <i>The series circuit</i>	Instructional video 5: Installation of parallel LEDs	1-5 mins
Chapter 7 <i>The parallel circuit</i>	Instructional video 6: What is a parallel circuit?	1-5 mins
Chapter 8 <i>The series-parallel circuit</i>	Instructional video 7: Case Study – The house with the dimming lights	1-5 mins
Chapter 9 <i>Basic meters</i>	Readings, quizzes and other learning path features as per 'MindTap Learning Path'	
Chapter 10 <i>Capacitance</i>	Readings, quizzes and other learning path features as per 'MindTap Learning Path'	
Chapter 11 <i>Magnetism and electromagnets</i>	Instructional video 8: Understanding solenoids	1-5 mins
Chapter 12 <i>Electromagnetic induction</i>	Instructional video 9: Lenz's law and its presence in various equipment	1-5 mins
Chapter 13 <i>DC generators</i>	Readings, quizzes and other learning path features as per 'MindTap Learning Path'	
Chapter 14 <i>DC motors</i>	Readings, quizzes and other learning path features as per 'MindTap Learning Path'	
Chapter 15 <i>AC fundamentals</i>	Readings, quizzes and other learning path features as per 'MindTap Learning Path'	
Chapter 16 <i>Pure R, L or C in an AC circuit</i>	Instructional video 10: Case study: Power Correction in a factory	1-5 mins
Chapter 17 <i>Series combinations of R, L and C</i>	Instructional video 11: Solving series RLC circuit	1-5 mins
Chapter 18 <i>Parallel AC circuits</i>	Instructional video 12: Numeracy explanation	1-5 mins
Chapter 19 <i>Single-phase power</i>	Instructional video 13: Case Study	1-5 mins
Chapter 20 <i>Three-phase power</i>	Instructional video 14: Three-phase balanced and unbalanced circuits Instructional video 15: Compressor motors	1-5 mins
Chapter 21 <i>Transformers</i>	Instructional video 16: Low lighting efficiencies	1-5 mins

Chapter 22 <i>Three-phase motors</i>	Instructional video 17: How do three-phase induction motors work	1-5 mins
Chapter 23 <i>Single-phase motors</i>	Instructional video 18: Replacing faulty capacitors	1-5 mins
Chapter 24 <i>Synchronous machines</i>	Readings, quizzes and other learning path features as per 'MindTap Learning Path'	
Chapter 25 <i>Test equipment and batteries</i>	Readings, quizzes and other learning path features as per 'MindTap Learning Path'	