



Goodheart-Willcox Publisher

18604 West Creek Drive • Tinley Park, IL 60477 • 800.323.0440 • www.g-w.com

Correlation of
Modern Automotive Technology, 9e, ©2017
to the
Texas Essential Knowledge and Skills (TEKS)
Course: §130.447 Automotive Basics (MLC 9448)

The following chart lists the Knowledge and Skills Statements and Student Expectations for the Texas Essential Knowledge and Skills (TEKS) for Automotive Basics. For each Student Expectation, the corresponding pages in *Modern Automotive Technology* are listed.

Student Expectations	Textbook Page(s)
(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:	
(1) (A) demonstrate knowledge of the technical knowledge and skills related to health and safety in the workplace such as safety glasses, other personal protective equipment (PPE), and safety data sheets (SDS)	76–84
(1) (B) identify career and employment opportunities, including entrepreneurship opportunities, internships, and industry-recognized certification requirements for the field of automotive technology	27–38
(1) (C) demonstrate the principles of group participation, team concept, and leadership related to citizenship and career preparation	157–159, 161–162
(1) (D) apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in the automotive technology industry	109–114, 159, 160, 406–407, 989, 1003–1020, 1025–1026, 1752–1754
(1) (E) discuss certification opportunities	28–37
(1) (F) discuss response plans to emergency situations	75–76, 78
(1) (G) identify employers' expectations and appropriate work habits, ethical conduct, legal responsibilities, and good citizenship skills	157–160
(1) (H) develop personal goals, objectives, and strategies as part of a plan for future career and educational opportunities	32–33, 37, 157, 161–163

Student Expectations	Textbook Page(s)
(2) The student demonstrates appropriate personal and communication skills. The student is expected to:	
(2) (A) describe, demonstrate, and apply ethical and legal responsibilities for appropriate workplace conduct	157, 159–160
(2) (B) demonstrate proper etiquette and behavior	157, 159
(2) (C) demonstrate appropriate personal appearance and hygiene	157, 159
(2) (D) demonstrate effective written and oral communication skills and employ effective listening skills	158–160
(2) (E) demonstrate advanced technical writing and preparation skills	27–28, 159
(2) (F) demonstrate effective speaking skills through prepared and extemporaneous oral presentations	159
(3) The student demonstrates academic skills related to the requirements of automotive technology. The student is expected to:	
(3) (A) demonstrate effective oral communication skills with individuals from various cultures such as fellow students, coworkers, and customers	160
(3) (B) demonstrate effective written communication skills, including documenting on a repair order the customer concern/complaint, root cause of the failure, and corrective action to complete the repair	114–115, 159, 965–967
(3) (C) demonstrate mathematical skills in performing addition, subtraction, multiplication, division, and measurements using decimals and fractions in the metric and U.S. standard systems as appropriate	90–104
(4) The student understands the technical knowledge and skills of basic automotive systems. The student is expected to:	
(4) (A) describe the eight major vehicle systems	13–14
(4) (B) locate, read, and interpret vehicle maintenance and service information	109–118, 989–990
(4) (C) describe the basic and emerging vehicle power systems	11, 15, 17, 23, 1755, 1757
(5) The student knows the functions and applications of the tools, equipment, technologies, and materials used in automotive services. The student is expected to:	
(5) (A) demonstrate the proper way to safely use hand and power tools and equipment commonly employed in the maintenance and repair of vehicles	41–51, 59–72

Student Expectations	Textbook Page(s)
(5) (B) discuss the proper handling and disposal of environmentally hazardous materials used in servicing vehicles	84
(5) (C) identify diagnostic tools and equipment	109–112, 399, 989
(5) (D) identify hand and shop tools and describe their proper usage	41–51, 66–72
(6) The student applies technical knowledge and skills in simulated or actual work situations. The student is expected to:	
(6) (A) demonstrate the procedures for ordering and locating parts	114, 117
(6) (B) demonstrate an understanding of the operation theory of internal combustion engines	167, 185, 215
(6) (C) identify brake system components, including drum, disc, power assist, and anti-lock braking system (ABS)	145, 1601–1602, 1604, 1653–1659
(6) (D) demonstrate an understanding of basic concepts related to hydraulic brakes systems, including Pascal's Theory of Hydraulics	1601, 1603–1604
(6) (E) demonstrate an understanding of basic concepts related to electrical and electronic systems such as Ohm's law, voltage drop, resistance, amperage, voltage, and wiring diagram symbols	251, 256, 277, 289
(6) (F) identify air-conditioning, heating, and accessory system components	20–23, 1197, 1673–1674, 1676–1677, 1687
(6) (G) inspect and identify chassis and power train components and systems	4–11, 17–20, 167–181, 1024–1025, 1057, 1325–1335, 1509, 1513
(6) (H) identify cooling and lubrication system components	140, 144, 146, 150
(6) (I) identify steering and suspension components, including power steering	1491–1509, 1545–1547
(6) (J) identify and interpret tire sidewall data information such as Department of Transportation (DOT) production date information, tire load capacity, inflation pressures, sizing description, and speed rating	1451–1453
(6) (K) compare the preventative maintenance schedules for a variety of vehicles based on their use	109–114, 138, 147, 150
(6) (L) perform a preventative maintenance inspection	109–114, 138, 147, 150

Student Expectations	Textbook Page(s)
(6) (M) explain and perform a "jump-start" of a vehicle using jumper cables and a booster battery or an auxiliary power supply according to manufacturer recommended procedures	70, 496–498
(6) (N) perform regular audits and inspections to maintain compliance with safety, health, and environmental regulations	78, 83–84, 152–153