Auto Upkeep Correlation Matrix for Automotive Basics

Texas Essential Knowledge and Skills for Career and Technical Education Transportation, Distribution, and Logistics

AUTO UPKEEP

Auto Upkeep Resources: http://www.AutoUpkeep.com/standards
TEKS Resources: http://ritter.tea.state.tx.us/rules/tac/chapter130/ch130p.html
§130.447. Automotive Basics (One Credit)



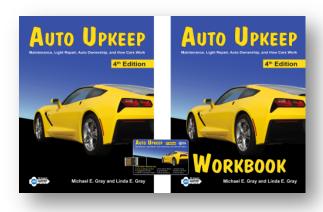
(a) General Requirements

This course is recommended for students in Grades 9-12. Students shall be awarded one credit for successful completion of this course.

(b) Introduction

- (1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.
- (2) The Transportation, Distribution, and Logistics Career Cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.
- (3) Automotive Basics includes knowledge of the basic automotive systems and the theory and principles of the components that make up each system and how to service these systems. Automotive Basics includes applicable safety and environmental rules and regulations. In Automotive Basics, students will gain knowledge and skills in the repair, maintenance, and servicing of vehicle systems. This study allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability.
- (4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.
- (5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

Auto Upkeep Textbook, Workbook, and Resource USB Flash Drive cover 100% of TEKS for Automotive Basics



(c) Knowledge and skills.

(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:

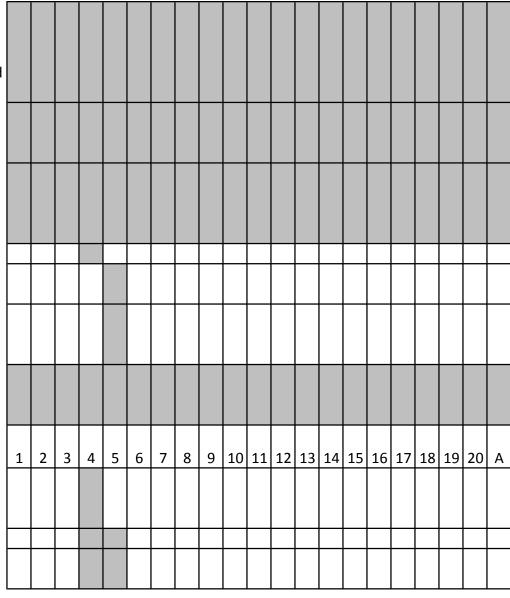
(A) demonstrate knowledge of the technical knowledge and skills related to health and safety in the workplace such as wearing safety glasses and other personal protective equipment (PPE) and maintaining safety data sheets (SDS);

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 1	Ch 1 Introduction and How Cars Work Ch 2 Buying an Automobile Ch 3 Automotive Expenses Ch 4 Repair Facilities Ch 5 Safety Around the Automobile Ch 6 Tools and Equipment Ch 7 Auto Care and Cleaning Ch 8 Fluid Level Check Ch 9 Electrical System Ch 10 Lubrication System Ch 11 Fuel System Ch 12 Cooling System and Climate Control Ch 13 Ignition System Ch 14 Suspension, Steering, and Tires Ch 15 Braking System Ch 15 Braking System Ch 16 Drivetrain Ch 17 Exhaust and Emission System
18 19	18 19	Ch 18 Alternative Fuels and Designs Ch 19 Automotive Accessories
20 A	20 A	Ch 20 Common Problems and Roadside Emergencies Appendix

- (B) identify career and employment opportunities, including entrepreneurship opportunities, internships, and industry-recognized certification requirements for the field of automotive technology;
- (C) demonstrate the principles of group participation, team concept, and leadership related to citizenship and career preparation;
- (D) apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in the automotive technology industry;
- (E) discuss certification opportunities;
- (F) discuss response plans to emergency situations;
- (G) identify employers' expectations and appropriate work habits, ethical conduct, legal responsibilities, and good citizenship skills; and
- (H) develop personal goals, objectives, and strategies as part of a plan for future career and educational opportunities.

(2) The student demonstrates appropriate personal and communication skills. The student is expected to:

- (A) describe, demonstrate, and apply ethical and legal responsibilities for appropriate workplace conduct;
- (B) demonstrate proper etiquette and behavior;
- (C) demonstrate appropriate personal appearance and hygiene;



- (D) demonstrate effective written and oral communication skills and employ effective listening skills;
- (E) demonstrate advanced technical writing and preparation skills; and
- (F) demonstrate effective speaking skills through prepared and extemporaneous oral presentations.

(3) The student demonstrates academic skills related to the requirements of automotive technology. The student is expected to:

- (A) demonstrate effective oral communication skills with individuals from various cultures such as fellow students, coworkers, and customers;
- (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; and
- (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.

(4) The student understands the technical knowledge and skills of basic automotive systems. The student is expected to:

- (A) describe the eight major vehicle systems;
- (B) locate, read, and interpret vehicle maintenance and service information; and

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Α
n e																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Α

(C) describe the basic and emerging vehicle power systems.																					
(5) The student knows the functions and applications of the tools, equipment, technologies, and materials used in automotive services. The student is expected to:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A
 (A) demonstrate the proper way to safely use hand and power tools and equipment commonly employed in the maintenance and repair of vehicles; 																					
(B) discuss the proper handling and disposal of environmentally hazardous materials used in servicing vehicles;																					
(C) identify diagnostic tools and equipment; and(D) identify hand and shop tools and describe their proper usage.																					
(6) The student applies technical knowledge and skills in simulated or actual work situations. The student is expected to:		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	A
(A) demonstrate the procedures for ordering and locating parts;																					
(B) demonstrate an understanding of the operation theory of internal combustion engines;																					
(C) identify brake system components, including drum, disc, power assist, and anti-lock braking system (ABS);																					
(D) demonstrate an understanding of basic concepts related to hydraulic brakes systems, including Pascal's Theory of Hydraulics;																					

(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;											
(F) identify air-conditioning, heating, and											
accessory system components;											
(G) inspect and identify chassis and power train											
components and systems;											
(H) identify cooling and lubrication system											
components;											
(I) identify steering and suspension components,											
including power steering;											
(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;											
(K) compare the preventative maintenance											
schedules for a variety of vehicles based on their											
use;											
(L) perform a preventative maintenance											
inspection;											
(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; and											
(N) perform regular audits and inspections to											
maintain compliance with safety, health, and											
environmental regulations.											