

Automotive Technology I YAG

§127.877 | Two Credits | Full Year | 36 Weeks | Grades 9–12 | Recommended Prerequisite: Automotive Basics

Course Information: Automotive Technology I: Maintenance and Light Repair develops foundational knowledge of major vehicle systems and the principles of diagnosing and servicing those systems. The course emphasizes safety, tool identification and use, service information, preventative maintenance, automotive systems, basic diagnostics, customer/repair-order communication, and employability. This YAG uses the current §127.877 standards together with the required §127.15(d)(2) CTE Employability Skills. ACCESS may be used for automotive career exploration, certification awareness, postsecondary planning, résumé development, and employment preparation.

GP	Wks	Unit & Focus	Major Learning Tasks & Assessments	Integrated TEKS	Extension Activities
1	1–2	Unit 1 - Automotive Industry, Safety & Shop Readiness	- Establish shop safety, PPE, emergency procedures and safe work habits - Identify hazardous automotive materials and proper handling/disposal practices - Practice professional communication, teamwork and customer-service expectations - Introduce repair-order documentation and automotive career/certification pathways - Complete shop safety and readiness assessment	- AT1-1(A–C) - AT1-4(A–B) §127.15(d)(2)	- ACCESS: automotive careers/certifications - Shop safety practical - Repair-order introduction
1	3–4	Unit 2 - Hand Tools, Shop Equipment & Service Information	- Identify hand, power, shop and diagnostic tools and their uses - Demonstrate safe use of commonly employed automotive tools/equipment - Locate and interpret vehicle maintenance/service information - Use specifications, diagrams and service resources to plan basic tasks - Apply metric/U.S. standard measurement and automotive math	- AT1-1(A–C) - AT1-3(B) - AT1-4(A–D) - AT1-5(N)	- Tool identification practical - Service-information scavenger hunt - Measurement lab
1	5–6	Unit 3 - Vehicle Systems & Emerging Power Systems	- Describe the eight major vehicle systems and how they interact - Identify major chassis, powertrain, cooling and lubrication components - Compare internal-combustion, hybrid and electric vehicle power-system concepts - Use service information to identify system locations/components - Practice technical vocabulary and system explanations	- AT1-3(A–C) - AT1-5(B,G–I)	- Vehicle systems walk-around - Power-system comparison - Component identification
1	7–9	Unit 4 - Preventative Maintenance I: Service Schedules, Fluids & Inspections	- Compare manufacturer preventative-maintenance schedules for different vehicle uses - Perform structured preventative-maintenance inspections - Inspect fluid levels/condition, leaks, belts, hoses and service items - Document findings and recommended actions on service/repair records - Order/locate parts and service materials using appropriate resources	- AT1-1(A–C) - AT1-3(B) - AT1-5(A,H,K–L,N)	- Multipoint inspection - Parts lookup - Maintenance schedule comparison
2	10–12	Unit 5 - Engine Fundamentals, Cooling & Lubrication	- Explain four-stroke internal-combustion engine operating theory - Identify engine, cooling and lubrication system components - Trace basic coolant/lubrication flow and relate maintenance to system life - Inspect systems for common maintenance concerns - Use service information/specifications to support inspection decisions	- AT1-3(B–C) - AT1-5(B,H,K–L)	- Engine component ID - Cooling/lubrication inspection - Service-information task
2	13–14	Unit 6 - Brake Systems & Hydraulic Principles	- Identify drum, disc, power-assist and ABS components - Explain Pascal's Theory of Hydraulics as applied to brake systems - Trace hydraulic brake operation using diagrams/components - Perform introductory brake-system visual inspection and documentation - Connect brake maintenance to safety and customer communication	- AT1-1(A–B) - AT1-3(B) - AT1-5(C–D,L,N)	- Brake component lab - Hydraulics demonstration - Brake inspection report
2	15–17	Unit 7 - Basic Automotive Electrical/Electronic Systems	- Apply Ohm's law concepts: voltage, amperage and resistance - Explain voltage drop and identify common wiring-diagram symbols - Use introductory electrical/diagnostic tools safely - Identify battery/starting/charging and basic circuit components - Explain and perform manufacturer-recommended vehicle jump-start procedure	- AT1-3(B–C) - AT1-4(A,C) - AT1-5(E,M,N)	- Basic circuit lab - Wiring-diagram activity - Jump-start performance task
2	18	Semester 1 Exam	- Cumulative written/application assessment covering safety, tools, service information, vehicle systems, maintenance, engine fundamentals, brakes and basic electrical concepts - Shop/application component using safe procedures and documentation - Semester portfolio/service-record review	- Cumulative AT1-1,3,4,5 as introduced §127.15(d)(2)	Targeted review/remediation
3	19–21	Unit 8 - Steering, Suspension & Chassis Systems	- Identify steering/suspension components including power steering - Inspect and identify chassis and powertrain components/systems - Explain how steering, suspension, tires and chassis systems interact - Use service information to locate specifications and inspection procedures - Document inspection findings using professional terminology	- AT1-1(A–C) - AT1-3(B) - AT1-5(G,I,L,N)	- Chassis inspection - Steering/suspension ID - Service report
3	22–24	Unit 9 - Tires, Wheels & Vehicle Safety	- Interpret DOT date, tire size, load capacity, inflation pressure and speed rating - Inspect tires/wheels and connect findings to preventative maintenance - Use manufacturer specifications to make service recommendations - Practice customer communication about tire safety and maintenance - Complete tire/wheel inspection documentation	- AT1-1(A–C) - AT1-3(B) - AT1-5(J–L,N)	- Tire sidewall lab - Tire safety inspection - Customer explanation
3	25–27	Unit 10 - HVAC, Accessories & Vehicle Comfort Systems	- Identify heating, A/C and accessory system components - Explain basic HVAC airflow/heat-transfer concepts at an introductory level - Locate service information and identify diagnostic/service equipment - Recognize safety/environmental concerns related to automotive service materials - Include HVAC/accessory checks in preventative-maintenance inspection	- AT1-3(B–C) - AT1-4(B–C) - AT1-5(F,L,N)	- HVAC component ID - System diagram analysis - Maintenance inspection

GP	Wks	Unit & Focus	Major Learning Tasks & Assessments	Integrated TEKS	Extension Activities
4	28-30	Unit 11 - Powertrain, Chassis & Integrated Vehicle Inspection	• Inspect and identify chassis and powertrain components/systems • Relate transmission/drivetrain components to vehicle operation • Integrate engine, cooling, lubrication, brake, electrical, steering/suspension and HVAC checks • Use service information to locate maintenance specifications • Document customer concern, findings and recommended corrective action	• AT1-1(A-C) • AT1-3(A-C) • AT1-5(G-I,K-L,N)	• Integrated vehicle inspection • Repair-order documentation • Systems diagnosis scenario
4	31-33	Unit 12 - Maintenance & Light Repair Service Workflow	• Receive a simulated/customer concern and create a repair/service workflow • Locate parts, maintenance schedules and service information • Perform assigned preventative-maintenance inspection/service tasks • Use tools/equipment safely and maintain environmental compliance • Communicate findings, root cause when appropriate and corrective action	• AT1-1(A-C) • AT1-3(A-C) • AT1-4(A-D) • AT1-5(A-N)	• Service workflow project • Parts/service research • Quality-control review
4	34-35	Unit 13 - Career Readiness, Certification Awareness & Auto Tech I Capstone	• Complete comprehensive vehicle inspection/service capstone • Demonstrate professional communication, math, tools and service-information skills • Evaluate safety/environmental compliance and shop practices • Research industry certification and postsecondary automotive pathways • Finalize résumé, career plan and Auto Tech I skills portfolio	• AT1-1(A-C) • AT1-3(A-C) • AT1-4(A-D) • AT1-5(A-N) • §127.15(d)(2)	• ACCESS: résumé/postsecondary planning • Mock interview • Skills portfolio
4	36	Semester 2 Exam & Automotive Service Showcase	• Cumulative written/application assessment across all Automotive Technology I TEKS • Preventative-maintenance/service-information/systems application • Final portfolio and service documentation review	• Cumulative AT1-1,3,4,5 • §127.15(d)(2)	• Targeted remediation • Automotive skills showcase

Automotive Technology I TEKS Coverage Checklist

Coverage verification: The current §127.877(d) course-specific standards contain 24 student expectations across strands (1), (3), (4), and (5). All 24 are intentionally addressed in this YAG, together with the required §127.15(d)(2) CTE Employability Skills.

Strand	SEs	Knowledge & Skills Focus	YAG Placement	Coverage
AT1-1	A–C	Academic skills: oral communication; written repair-order documentation; automotive math and measurement	Units 1–2, 4, 6, 8–9, 11–13	100%
AT1-3	A–C	Basic automotive systems: eight major systems; maintenance/service information; basic and emerging vehicle power systems	Units 2–5, 7–13	100%
AT1-4	A–D	Tools/equipment/materials: safe hand/power tool use; hazardous materials; diagnostic tools; hand/shop tool identification and usage	Units 1–2, 7, 10, 12–13	100%
AT1-5	A–N	Applied automotive knowledge: parts; engine theory; brakes/hydraulics; electrical; HVAC; chassis/powertrain; cooling/lubrication; steering/suspension; tires; maintenance schedules/inspection; jump-start; compliance audits	Units 2–13	100%
§127.15(d)(2)	Integrated	Required CTE Employability Skills for this Level 3 course	All units	100%

Implementation Notes

- Automotive Technology I is a two-credit Level 3 course recommended for Grades 9–12 with Automotive Basics as the recommended prerequisite.
- The course should remain strongly hands-on. Preventative maintenance, tool use, vehicle inspection, component identification, service-information use, jump-start procedures and light-repair applications should be performed in simulated or actual work situations as equipment and vehicles allow.
- Repair-order communication should be reinforced throughout the year so students learn to document the customer concern/complaint, findings/root cause when applicable, and corrective action using professional terminology.
- Safety and environmental compliance should be embedded in every shop unit, including PPE, safe tool/equipment operation, hazardous-material handling/disposal and routine shop audits/inspections.
- ACCESS should support automotive career exploration, industry certification awareness, postsecondary technical programs, résumé/interview preparation and transition into Automotive Technology II or employment.
- Weeks 18 and 36 are reserved for cumulative semester exams. No instructional unit crosses the semester boundary.