

Advanced Automotive Technology YAG

§127.878 Automotive Technology II: Automotive Service | Two Credits | Full Year | 36 Weeks | Grades 11–12

Course Information: Automotive Technology II: Automotive Service advances students from maintenance and light repair into diagnosis, repair, and service of vehicle systems. Prerequisite: Automotive Technology I: Maintenance and Light Repair. The course integrates repair-order documentation, parts/labor estimating, automotive math, service information, structured diagnosis, precision measurement, safe tool/diagnostic-equipment use, environmental practices, suspension, electrical systems, brakes, engine performance, engines, and HVAC. §127.15(d)(2) CTE Employability Skills are integrated throughout. ACCESS may support advanced automotive careers, industry certification awareness, postsecondary planning, résumé/interview preparation, and employment transition.

GP	Wks	Unit & Focus	Major Learning Tasks & Assessments	Integrated TEKS	Extension Activities
1	1–2	Unit 1 - Advanced Shop Readiness, Service Workflow & Diagnostics	• Reestablish advanced shop safety, PPE and environmental procedures • Document customer concern, root cause and corrective action on repair orders • Estimate parts/labor using flat-rate concepts and apply automotive math • Research service history, precautions, TSBs, schematics and service information • Apply structured problem solving to simulated/actual vehicle concerns	• AAT1(A–D) • AAT2(A–H) • AAT3(A–D) • §127.15(d)(2)	• ACCESS: advanced automotive pathways • Diagnostic workflow exercise • Repair-order/estimate task
1	3–4	Unit 2 - Precision Measurement, Fasteners & Preventative Maintenance	• Perform preventative-maintenance inspection using manufacturer schedules • Use precision measuring tools and published specifications to determine wear • Remove broken fasteners and restore/repair internal and external threads • Select/use hand and power tools safely • Document inspection results, recommendations and cost estimates	• AAT1(A–D) • AAT2(C–H) • AAT3(A–D)	• Precision measurement lab • Thread-repair practical • PM inspection
1	5–7	Unit 3 - Advanced Suspension, Steering & Wheel Bearings	• Inspect/replace power-steering hoses and fittings • Service wheel bearings, seals, hubs and races • Inspect/replace shocks/struts and evaluate mounts/bushings • Inspect rear suspension components and perform pre-alignment/ride-height checks • Inspect FWD bearings, hubs, shafts, boots and CV joints	• AAT2(B,C,G–H) • AAT3(A,C–D) • AAT4(A–E,G,I,M)	• Suspension inspection • Bearing service practical • Pre-alignment report
1	8–9	Unit 4 - Tires, TPMS & Wheel Service	• Inspect tire condition/wear, application, load/speed ratings and inflation • Dismount/remount tire on TPMS-equipped wheel • Test direct/indirect TPMS and instrument-panel indicators • Explain sensor replacement procedures and inspect wheel/tire air loss • Integrate tire findings into repair-order recommendations	• AAT1(A–D) • AAT3(A,C–D) • AAT4(F,H,J–L)	• TPMS diagnostic task • Tire service practical • Customer recommendation
2	10–12	Unit 5 - Electrical Diagnosis: Circuits, Parasitic Draw & Wiring Repair	• Diagnose shorts, opens and unwanted resistance • Measure key-off battery drain/parasitic draw • Perform solder repairs and replace connectors/terminal ends • Use wiring diagrams and diagnostic tools to isolate faults • Maintain/restore electronic memory functions during service	• AAT1(A–D) • AAT2(C,H) • AAT3(A,C–D) • AAT5(A–E)	• Parasitic-draw diagnosis • Wiring repair practical • Diagram-based troubleshooting
2	13–15	Unit 6 - Starting, Charging & Vehicle Electronics	• Perform battery charging according to manufacturer procedures • Test starter current draw, voltage drop, relays, solenoids and control circuits • Remove/install starter and test charging-system output • Remove/inspect/reinstall alternator • Identify reinitialization/code-entry needs, HID safety, keyless/remote-start operation	• AAT3(A,C–D) • AAT5(F–M,P)	• Starting-system diagnosis • Charging-system practical • Electronic-memory scenario
2	16–17	Unit 7 - SRS, Brake Systems & Stability Controls	• Disable/enable SRS safely and verify indicator operation • Remove/reinstall door panel using appropriate service procedures • Describe brake/ABS road-test procedure and measure pedal specifications • Bleed/flush brake system and inspect brake warning/stop-light operation • Identify traction-control and vehicle-stability-control components	• AAT3(A,C–D) • AAT4(D) • AAT5(N–O) • AAT6(A–F)	• SRS service procedure • Brake hydraulic practical • ABS/stability systems analysis
2	18	Semester 1 Exam	• Cumulative written/application assessment covering service workflow, precision measurement, suspension/steering, tires/TPMS, electrical, starting/charging, SRS and brakes • Diagnostic/service performance component • Semester repair-order/portfolio review	• Cumulative AAT1–6 as introduced • §127.15(d)(2)	• Targeted review/remediation
3	19–21	Unit 8 - Engine Performance I: OBD II & Diagnostic Data	• Explain OBD II monitor operation and repair verification • Retrieve/record DTCs, monitor status and freeze-frame data • Clear codes when applicable and verify repair process • Use service information and structured diagnostic strategy • Connect scan data to customer concern and repair-order documentation	• AAT1(A–D) • AAT2(A,C,H) • AAT3(C–D) • AAT7(A,G)	• Scan-tool lab • DTC diagnostic scenario • Repair verification
3	22–24	Unit 9 - Engine Performance II: Mechanical Condition & Ignition	• Perform cylinder power-balance testing • Perform cranking/running compression tests • Perform cylinder leakage testing • Verify engine operating temperature • Remove/replace spark plugs and inspect secondary ignition components	• AAT1(A–D) • AAT2(A,G–H) • AAT3(A,C–D) • AAT7(B–F)	• Compression/leakage practical • Ignition inspection • Diagnostic conclusion report

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3	25–27	Unit 10 - Engine Mechanical Service & Cooling Systems	• Install engine covers using correct gaskets, seals and sealers • Remove/replace timing belt and verify camshaft timing • Pressure/dye test cooling system and inspect radiator, cap, recovery tank and heater core • Remove/inspect/replace thermostat and gasket/seal • Use specifications and precision measurement to verify service quality	• AAT1(A–D) • AAT2(A,C,G–H) • AAT3(A–D) • AAT8(A–D)	• Timing-service practical • Cooling-system diagnosis • Leak-test report
4	28–30	Unit 11 - HVAC & Hybrid A/C Safety	• Identify/replace cabin air filters • Inspect A/C condenser for airflow restrictions • Identify likely sources of A/C system odors • Identify hybrid-vehicle A/C electrical circuits and required safety precautions • Use service information and environmental procedures during HVAC inspection	• AAT1(A–D) • AAT2(C,H) • AAT3(A–D) • AAT9(A–D)	• HVAC inspection • Hybrid A/C safety analysis • Service-information task
4	31–33	Unit 12 - Integrated Automotive Diagnosis & Service	• Receive a customer concern and develop a diagnostic plan • Research service history, TSBs, specifications and schematics • Perform appropriate system tests using diagnostic/measurement equipment • Determine root cause and necessary corrective action • Complete repair order, parts/labor estimate and quality-control verification	• AAT1(A–D) • AAT2(A–H) • AAT3(A–D) • AAT4–9 applied	• Integrated diagnostic work order • Flat-rate estimate • Quality-control review
4	34–35	Unit 13 - Advanced Auto Tech Capstone & Career Transition	• Complete comprehensive diagnostic/service capstone on an assigned vehicle concern • Demonstrate safe tools/equipment use and environmental compliance • Communicate findings and corrective action professionally • Research certification, postsecondary and employment pathways • Finalize résumé, skills portfolio and documented work samples	• AAT1(A–D) • AAT2(A–H) • AAT3(A–D) • AAT4(A–M) • AAT5(A–P) • AAT6(A–F) • AAT7(A–G) • AAT8(A–D) • AAT9(A–D) • §127.15(d)(2)	• ACCESS: certification/postsecondary planning • Mock interview • Capstone portfolio
4	36	Semester 2 Exam & Automotive Service Showcase	• Cumulative written/application assessment across all Automotive Technology II TEKS • Integrated diagnosis/service performance assessment • Final repair-order documentation and portfolio showcase	• Cumulative AAT1–9 • §127.15(d)(2)	• Targeted remediation • Automotive service showcase

Automotive Technology II TEKS Coverage Checklist

Coverage verification: All nine current Automotive Technology II knowledge and skills strands and all 66 student expectations in §127.878(d), plus §127.15(d)(2) CTE Employability Skills, are intentionally addressed in the 36-week sequence.

Strand	SEs	Knowledge & Skills Focus	YAG Placement	Coverage
AAT1	A-D	Repair-order communication, parts/labor estimating, automotive math, vehicle/service history, precautions and TSB research	All units	100%
AAT2	A-H	Core automotive service: powered vehicle/chassis/driveline diagnosis, service documents, maintenance, fastener repair, precision measurement, structured problem solving	Units 1-5, 8-13	100%
AAT3	A-D	Safe tools/equipment, hazardous materials, diagnostic equipment and service-repair information	All shop/service units	100%
AAT4	A-M	Suspension/steering: power steering, bearings/hubs, SRS, shocks/struts, tires/TPMS, rear suspension, alignment, FWD/CV components	Units 3-4, 7, 13	100%
AAT5	A-P	Electrical systems: circuit faults, parasitic draw, wiring repair, memory, charging, starting, modules, HID, SRS, door panels, keyless/remote start	Units 5-7, 13	100%
AAT6	A-F	Brakes: road-test/ABS procedure, pedal measurements, warning/stop lights, bleeding/flushing, traction/stability controls	Unit 7, 13	100%
AAT7	A-G	Engine performance: OBD II, power balance, compression/leakage, temperature, spark plugs/secondary ignition, DTC/freeze-frame data	Units 8-9, 13	100%
AAT8	A-D	Engines: covers/gaskets/sealers, timing belt/cam timing, cooling-system pressure/dye tests, thermostat service	Unit 10, 13	100%
AAT9	A-D	HVAC: cabin filters, condenser airflow, odor source identification, hybrid A/C circuits and safety	Unit 11, 13	100%
§127.15(d)(2)	Integrated	Required CTE Employability Skills	All units	100%

Implementation Notes

- Automotive Technology II is a two-credit course recommended for Grades 11-12. Automotive Technology I: Maintenance and Light Repair is the prerequisite.
- The YAG progresses from chassis/suspension and advanced electrical/brake work in Semester 1 into OBD II/engine performance, engine mechanical service, HVAC and integrated diagnosis in Semester 2. This supports repeated use of service information, repair orders, diagnostic equipment and structured problem solving.
- Repair-order documentation, parts/labor estimating and flat-rate concepts should be reinforced throughout authentic service work rather than taught only as isolated classroom topics.
- Safety and environmental compliance remain continuous expectations, including PPE, proper tool/equipment use, hazardous-material handling/disposal, SRS/high-voltage precautions where applicable and manufacturer service procedures.
- ACCESS should support advanced automotive careers, industry certification awareness, postsecondary technical programs, résumé/interview preparation and transition into practicum, apprenticeship or employment.
- Weeks 18 and 36 are reserved for cumulative semester exams. No instructional unit crosses the semester boundary.