



2018-2019

Vehicle Maintenance Technician

OUTLINE

DESCRIPTION:

This course provides entry-level training in automotive service, repair, diagnostics, and maintenance. Students use diagnostic equipment, as well as hand, and specialized tools. Students who successfully complete this training will have gained in demand job skills and a foundation for further education or training.

INFORMATION:

A. Pre-requisite:

- 18 years of age, high school graduate or equivalent (proof provided at time of registration).
- Current driver's license
- Social Security card or right to work documentation
- Clean driving record (No history of DUI's or excessive driving record) (DMV printout requested at time of registration)
- CASA's Assessment (9th grade reading & 6th grade math)
- Ability to attend class daily as scheduled for both in class and clinical (Clinical site is at another location)

B. Length: 90hrs plus mandatory training in CPR/AED & First Aid training 8hrs (9:00am-4:30pm 1.5 hr. lunch) (Monday-Thursday)

C. Certificates Earned in Program:

- AC Delco (Minimum of 13 certificates)
- Valvoline
- S/P 2-Automotive
- CPR/AED/First Aid, American Heart Association
- Soft Skills

D. Sector: Transportation

E. Pathway: Systems Diagnostic and Service

O*Net SOC Codes	
Code #	Title
49-3023.00	Automotive Service Technicians and Mechanics
53-6031.00	Automotive and Watercraft Service Attendants
49-9071.00	Maintenance & Repair Workers, General

1. Orientation	3 Hrs
<ul style="list-style-type: none">A. Introduce the course and facilities.B. Discuss the syllabus and major objectives.C. Explain applicable classroom management procedures including the Student Computer and Internet User Agreement and any operational guidelines.D. Review instructor/student expectations.E. Explain enrollment and attendance requirements and procedures.F. Review grading and student evaluation procedures.G. Discuss the clinical aspect of the program.H. Discuss the "next steps" related to additional education, training, and employment.I. Review classroom safety, emergency and disaster procedures.	
2. Interpersonal Skills	5 Hrs
<ul style="list-style-type: none">A. Demonstrate positive teamwork skills by contributing to a group effort.B. Practice the importance of diversity awareness and sensitivity in the workplace.C. Define sexual harassment in the workplace and identify the employee's role and responsibility.D. Identify different personality types and strategies for working effectively with each type.E. Display customer service and social etiquette skills.F. Demonstrate the use of time management skills.G. Explain the ethical implications of internal theft and inventory loss.H. Recognize the effects of substance abuse in the workplace.I. Discuss the importance of ethical decision making.J. Demonstrate problem solving skills.K. Complete the AC Delco certification in Problem Solving & Time Management and pass the examine with a 80% or better	
3. Employability Skills	10 Hrs
<ul style="list-style-type: none">A. Demonstrate appropriate attendance and punctuality practices for the classroom and worksite.B. Prepare a resume, cover letter and job application forms.C. Identify strategies for employment retention and sustainability in the workplace.D. Demonstrate social networking and securing employment.E. Identify appropriate procedures for leaving a job.F. Identify sources of job information, including electronic modalities.	

<ul style="list-style-type: none"> G. Write and present a resume. H. Participate in a Mock Interview demonstrating success in the auto industry. 	
4. CPR/AED/First Aid	8 Hrs
<ul style="list-style-type: none"> A. Demonstrate critical skills necessary in an emergency. B. Demonstrate choking relief in adults, children and infants. C. Understand the appropriate response to a sudden cardiac arrest incident in adults, children and infants. D. Pass a CPR/First Aid exam with an 80% or higher. E. Complete the AC Delco certification in Continuous Improvement and pass the examine with a 80% or better 	
5. Personal and Occupational Safety	17 Hrs
<ul style="list-style-type: none"> A. Exhibit the appropriate use of PPE and industry standard dress codes during lab/shop activities. B. Demonstrate a working knowledge of how to use a first aid kit, eye wash station and manage blood borne pathogens. C. Identify general shop safety rules and procedures. D. Apply personal safety practices while in the shop. E. Identify safety hazards commonly found in the shop environment. F. Explain the importance of CAL-OSHA. G. Define and discuss ergonomics in relation to the working environment. H. Discuss ways to report and respond to all potential safety hazards. I. Identify and use proper placement of floor jacks, jack stands and lifts. J. Utilize proper ventilation procedures for working within the lab/shop area. K. Identify marked safety areas and posted evacuation routes. L. Identify types of hazardous waste, discuss related safety issues, and demonstrate proper handling and disposal procedures. M. Locate and demonstrate knowledge of material safety data sheets (MSDS). N. Exhibit the ability to operate vehicles safely. O. Identify the location and types of fire extinguishers and other fire safety equipment. P. Demonstrate the procedures for using fire extinguishers and other fire safety equipment. Q. Upon completion of the S/P 2 training obtain a certificate of completion. 	
7. Tools and Equipment	4 Hrs
<ul style="list-style-type: none"> A. Identify tools and their usage in automotive applications. B. Identify standard and metric designation. 	

- C. Demonstrate safe handling and use of appropriate tools and equipment.
- D. Demonstrate proper cleaning, storage, and maintenance of tools and equipment.
- E. Demonstrate proper use of precision measuring tools (i.e., micrometer, dial-indicator, dial-caliper).
- F. Complete the AC Delco certification in Precision Measuring Tools and pass the examine with a 80% or better.

8. Preparing Vehicle for Service and Customer

5 Hrs

- A. Research and review applicable vehicle and service information (vehicle service history, service precautions, technical service bulletins).
- B. Locate and interpret vehicle and major component identification numbers (VIN, vehicle certification labels, calibration decals).
- C. Safety check, fill, and replace to proper fluid levels: oil, engine coolant, power steering fluid, brake fluid, windshield washer fluid, differential/transfer case fluid, transmission fluid, etc.
- D. Identify information needed and the service requested on a repair order.
- E. Explain the purpose and demonstrate proper use of fender covers, mats.
- F. Demonstrate use of the three C's (concern, cause, and correction).
- G. Ensure vehicle is prepared to return to customer per school/company policy (i.e., floor mats, steering wheel cover, etc.).
- H. Demonstrate proper inspection, removal and replacement of windshield wiper blades.
- I. Complete the AC Delco certifications in Maintenance-Behind the Wheel, Maintenance Under the Car, and Steering Systems & Diagnostics and pass each examine with a 80% or better.

9. Oil and Fluids Changes

8 Hrs

- A. Identify types of fluids and explain their uses.
- B. Checks all levels of fluids under the hood.
- C. Changes oil and filters.
- D. Demonstrate the correct disposal of fluids and follows all safety procedures.
- E. Complete the AC Delco certification in Maintenance-Automotive Fluids and pass the examine with a 80% or better.

10. Cooling System

4 Hrs

- A. Identify the various types of radiators and appropriate fluids and levels.
- B. Demonstrates cooling system services.
- C. Demonstrate replacement and disposal of anti-freeze.
- D. Demonstration cooling system testing and inspection.
- E. Demonstrates replacement of radiator and heater hoses.

11. Belts	2 Hrs
<ul style="list-style-type: none"> A. Identify various types of drive belts. B. Demonstrates inspection, removal/replacement & adjustment. C. Demonstrates the proper disposal of belts. 	
12. Heating & Air Conditioning	2 Hrs
<ul style="list-style-type: none"> A. Identifies different cabin filters. B. Demonstrates proper inspection, removal and replacement of cabin filters. 	
13. Air Cleaners	2 Hrs
<ul style="list-style-type: none"> A. Identify types of air filters. B. Demonstrates proper inspection, removal and replacement of air filters. 	
14. Tires/Balancing/Shocks	10 Hrs
<ul style="list-style-type: none"> A. Identifies various types of tires, tread and tread wear. B. Explains the cause of uneven tread wear and recommends appropriate actions for concern. C. Demonstrate ability to rotate tires. D. Performs different rotation patterns. E. Identify different types of wheels. F. Perform static and dynamic balance tires. G. Demonstrate the ability to dynamic balance tires. H. Replace shock absorbers (front, rear). I. Identify and perform appropriate tire repair (i.e., plugs, patching). J. Complete the AC Delco certification in Tires & Wheels and pass the examine with a 80% or better. 	
15. Batteries, Charging & Starting Systems	6 Hrs
<ul style="list-style-type: none"> A. Demonstrate understanding of the basic principles of electricity. B. Identifies different types of batteries and explains their uses. C. Demonstrate ability to replace, service and test batteries. D. Explain how charge systems works. E. Perform a starting system inspection and test. 	

- F. Explain the safety aspects of high voltage circuits (i.e., high intensity discharge (HID) lamps, ignition systems, injection systems, hybrid vehicle high voltage circuits, etc.).
- G. Complete the AC Delco certification in Electrical/Electronics Stage 1, Battery, Charging and Starting Systems and Automotive Meters and pass the examine with a 80% or better.

16. Brake System

10 Hrs

- A. Explain the basic principles of braking.
- B. Identifies common brake parts.
- C. Perform an inspection of the hydraulic system (master cylinder, wheel cylinders, calipers, lines & hoses).
- D. Inspect and replace rear brake shoes.
- E. Inspect and replace disc brake pads.
- F. Remove air from brake system (bleeds brakes).
- G. Replace brake lines and hoses.
- H. Adjust brakes (foot & parking).
- I. Explain the safety aspects of supplemental restraint systems (SRS), and electronic brake control systems.
- J. Complete the AC Delco certification in GM Braking Systems 1 and pass the examine with a 80% or better.

17. Demonstrates Effective Use of Technology

2 Hrs

- A. Identify and discuss online ethics, safety, and security.
- B. Identifies and investigates emerging technologies related to mechanics.
- C. Selects and uses appropriate technologies/tools/materials for successful completion of job task.
- D. Uses technology resources for solving problems and making informed decisions.