

Automotive Services

Course Description

This course will give a summary of the automotive services career field, related jobs, required education and certification with emphasis on:

- The advantages and disadvantages of working in the auto service career field in regards to expected pay and benefits.
- A brief description of hazards encountered in the workplace.
- Identifying general safety, personal safety, and tool and equipment safety rules in automotive services.
- The tools and equipment used in the trade and how to maintain and use them correctly.

Objective

Demonstrate your understanding of the material presented by written exam, participation, and performing certain tasks as outlined by task sheets.

Knowledge

After completing this course, you will be able to identify major systems of an automobile and their purpose.

- Explain the importance of ASE and NATEF and how to become an ASE certified technician.
- Identify career opportunities in the automotive field.
- Recognize hazardous materials and waste and proper methods of disposal.
- Identify types of safety information.
- Identify personal protective equipment for the use in the automotive shop.
- Identify and properly use tools and equipment.
- Describe the purpose of gaskets and sealants and explain how to use them properly.

Skills

In order to meet the objective, you must be literate and have a G.E.D. or high school diploma.

- You must have a valid driver's license and good driving record.
- Able to lift 50 to 75 lbs. And stand on your feet for 8 to 10 hours per day.
- Ability to work independently and follow instructions on a work order.
- Basic keyboarding/computer skills.
- Must have a basic mechanics tool set.



Automotive Services Lesson Outline		
30 Minutes	<u>Introduction</u> <ul style="list-style-type: none"> • Instructor • Students • Syllabus 	About Me About You What you will learn
45 Minutes	<u>The Automotive Profession</u> <ul style="list-style-type: none"> • History • Auto Systems • Certifications 	Old vs. New Engine, Steering, ASE (handout)
15 Minutes	Break	
45 Minutes	<u>Automotive Career</u> <ul style="list-style-type: none"> • Employers • Work Environment • Employability Skills • Pay & Benefits 	Task Sheet Hours, Duties, etc Education, Dependability Trainee to Master Tech
15 Minutes	<u>General Workplace Safety</u> <ul style="list-style-type: none"> • OSHA Workplace precautions • Hazardous Materials and Waste • Fire Safety 	Purpose General Hazards Types, MSDS Basic Rules
15 Minutes	<u>Personal Safety Practices</u> <ul style="list-style-type: none"> • Personal Protective Equipment • Ergonomics • Emergency Response 	Safety glasses, Shoes Lifting, Carpal tunnel First Aid, CPR
15 Minutes	Break	
15 Minutes	<u>Tool and Equipment Safety</u> <ul style="list-style-type: none"> • Hand Tools • Power Tools • Shop Equipment • Fasteners, gaskets Sealants • Silicone, Antiseize 	Wrenches, Sockets Impacts, Grinders Jacks, Lifts, Torches
30 Minutes	<u>Summary</u> <ul style="list-style-type: none"> • Quiz • Evaluation 	

Automotive Services Quiz Answer Sheet

Name _____ Date _____

Circle the correct answer

1. Which of the following statements about today's new autos is correct?
 - a. There are more computers in a car today than aboard the first spaceship.
 - b. A new car today may have as many as 15 computers onboard.
 - c. Both a and b**
 - d. Neither a or b

2. The purpose of Automotive Services Excellence (ASE) is to:
 - a. Improve the quality of vehicle service and repair.
 - b. Test and certify automotive service and repair professionals.
 - c. Both a and b**
 - d. Neither a or b

3. To be ASE certified in a certain area, a technician must:
 - a. Pass a written exam.
 - b. Have at least two years relevant work experience.
 - c. Complete an ASE-certified automotive training program.
 - d. Both a and b**

4. The National Automotive Educational Foundation (NATEF) does which of the following:
 - a. Provides a forum for technical information and exchange.
 - b. Tests automotive technicians on knowledge and skills.
 - c. Evaluates automotive training programs and recommends programs for ASE certification.**
 - d. Recommend students to prospective employers.

5. To get started in a career as an automotive service technician, you should:
 - a. Have a mechanical aptitude and interest in automotive vehicles and how they work.
 - b. Complete an automotive training program.
 - c. Gain work experience in a modern automotive service facility.
 - d. All of the above.**

6. OSHA was created to:
 - a. Assure safe and healthful working conditions for working men and women.
 - b. Authorize enforcement of the standards developed under the Act.
 - c. Provide research, information, education, and training in the field of occupational safety and health.



- d. **All of the above.**
7. Technician A says the “Right to know” law only applies to large automotive workplaces.
Technician B says the “Right to Know” law requires having access to a material safety data sheet. Who is correct?
- a. Technician A
 - b. Technician B**
 - c. Both A & B
 - d. Neither A nor B
8. Technician A says MSDS lists possible health and safety problems of a chemical. Technician B says MSDS identifies chemicals and their components. Who is correct?
- a. Technician A
 - b. Technician B
 - c. Both A & B**
 - d. Neither A nor B
9. A starter set of hand tools costs about:
- a. \$100.00
 - b. \$1,000.00**
 - c. \$5,000.00
 - d. \$10,000.00
10. According to the Occupational Outlook Handbook, 60,000 additional automotive Technicians will be needed in the near future.
- a. True**
 - b. False



AUTOMOTIVE SERVICES

Objective:

This session provides exposure to the various certifications, licenses and training classes available or required for a career in automotive, truck, bus and/or heavy equipment maintenance and repair. (12 hours)

- I Instructor introduction
- II ASE Certifications Available
 - A. Automobile diagnostics and repair
 - B. Medium/heavy truck diagnostics and repair
 - C. Truck Equipment Technician, attachments and systems on medium/heavy trucks
 - D. Collision repair/refinish and estimator of equipment involved in accidents
 - E. Engine machinist both gasoline and diesel
 - F. Specialist in exhaust systems
 - G. Specialist in alternate fuel systems
 - H. Advanced automobile and medium/heavy truck engine diagnosis and performance
 - I. School bus repair
- III Additional Certifications and Licenses Available
 - A. Air conditioning refrigerant recovery and recycling
 - B. Brake inspector
 - C. Virginia State Inspector
 - D. Veeder-Root underground storage tank/above ground storage tank monitoring systems
- IV Additional Training Classes Available
 - A. Brake rotor machine operation
 - B. Calibration of automobile
 - C. Diagnostics of equipment
 - D. Fleet management software
 - E. Front-end alignment machine
 - F. Generators
 - G. Hydraulics
 - H. Lift rack operation
 - I. Marine repairs
 - J. Small engine repairs
 - K. Tire machine operation

V Review

- A. Questions and Answers
- B. Written Test

Automotive Services Quiz

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Circle the correct answer

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