

AUTOMOTIVE SERVICE TECHNICIAN

APPENDIX A

O*NET CODE 49-3023.01

This training outline is a minimum standard for Work Processes and Related Instruction. Changes in technology and regulations may result in the need for additional on-the-job or classroom training.

WORK PROCESSES

	Approximate Hours
A. Shop Routine	500
1. Proper use and operation of tools, equipment, and fixtures.	
2. Familiarity with shop operations, manufacturers' policies, procedures, and maintenance schedules.	
3. New vehicle service, inspect and lubricate engines and other components, test drive vehicles, perform NYS inspection.	
4. Repair and replace parts.	
5. Install accessories such as cruise control and GPS.	
6. Keep shop clean and orderly.	
7. Handle flammable and toxic materials in a safe manner.	
B. Brake Systems	500
1. Inspect, service and repair brake systems and all related components.	
2. Adjust and reline brakes.	
3. Repair hydraulic systems.	
4. Service air and vacuum brakes and ABS.	
5. Replace brake lines and pads.	
6. Inspect, repair, and replace wheel bearings.	
C. Chassis, Steering, and Suspension Systems	550
1. Repair or replace frames.	
2. Inspect, service and repair springs, shocks, struts and related suspension components.	

3. Inspect, replace and repair all steering components and linkage, including steering gears, pumps, hoses and rack-and-pinion units.
4. Align and balance wheels.
5. Repair and replace tires.

D. Electrical and Electronic Systems **1,500**

1. Practical application of electrical and electronic theory.
2. Diagnose and repair electrical circuits.
3. Troubleshoot and repair all electrical and electronic component parts and systems.
4. Maintenance and repair of electric-powered cars.

E. Engine Service, Diagnosis and Major Repair **2,050**

1. Repair and rebuild power plants.
2. Test, repair and rebuild starters, alternators, and related engine electrical systems.
3. Diagnose and repair all electronic, solid state and computer-controlled engine related systems.
4. Repair/replace valves, timing gears, chains, pumps, piston and ring assembly, bearings and crankshafts.
5. Recondition cylinders.
6. Troubleshoot and repair fuel/ignition/exhaust systems.
7. Perform computer diagnostics.

F. Heating and Air Conditioning **500**

1. Diagnose, service, and repair manual and automatic HVAC systems.
2. Repair radiator leaks.

G. Transmissions, Clutches, Drive Lines, Axles **1,400**

1. Diagnose, service, and repair all manual and automatic transmissions, drive train systems and axles.

H. Miscellaneous **1,000**

1. Welding, auxiliary devices, tune-ups, oil changes.
2. Service and change filters and belts.
3. Prepare repair estimates and provide courteous and professional customer service.

Approximate Total Hours **8,000**

Apprenticeship work processes are applicable only to training curricula for apprentices in approved programs. Apprenticeship work processes have no impact on classification determinations under Article 8 or 9 of the Labor Law. For guidance regarding classification for purposes of Article 8 or 9 of the Labor Law, please refer to <https://dol.ny.gov/public-work-and-prevailing-wage>

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RELATED INSTRUCTION

Safety and Health

1. General Workplace Safety
2. Personal Protective Equipment (PPE)
3. Ladder Safety
4. Proper Lifting Techniques
5. Right-to-Know/ Safety Data Sheets (SDS)
6. EPA Regulations for Working with Refrigerants, and Obtaining Required Certifications
7. First Aid – minimum 6.5 hours every 3 years
8. Sexual Harassment Prevention Training – must comply with current New York State Labor Law

Blueprints

1. Elementary Blueprint Reading
2. Reading Schematics
3. Reading Wiring and Ignition Diagrams
4. Reading Technical Manuals and Procedures

Mathematics

1. Arithmetic; Decimals; Fractions; Algebraic Equations and Formulas
 - a. Commonly Used in the Trade
2. Metric System
3. Precision Measurement

Trade Theory and Science

1. Fundamentals of Mechanics
2. Automotive Electricity
3. Automotive Electronics
4. Tools, Equipment, Fixtures: Safe Use and Care
5. Automotive Terminology
6. Fuel Systems

7. Brake Systems
8. Chassis, Steering and Suspension Systems
9. Automotive Engines
10. HVAC Systems
11. Transmissions, Clutches, Drive Lines, Axles
12. Diagnostics
13. Troubleshooting Electrical and Electronic Systems
14. Welding
15. Obtaining Motor Vehicle Inspector's Certification from New York State Department of Motor Vehicles
16. Obtaining Tow Endorsement from New York State Department of Motor Vehicles (if applicable)
17. Preparation for ASE Certification Exams (optional)

Other Workplace Skills

1. Basic Computer Skills
2. Communication Skills
3. Customer Service

Other Related Courses as Necessary

A Minimum of 144 Hours of Related Instruction is Required for Each Apprentice for Each Year.

Appendix B topics are approved by New York State Education Department.