

Connecticut CTE

# **Automotive Technology (Grades 9-12)**

## Automotive Technology

### A Automotive Technology AUTO

- 1 Students demonstrate the value and necessity of practicing personal and occupational safety and protecting the environment by using materials and processes in accordance with manufacturer and industry standards. AUTO.01
  - a List and explain common environmental conservation practices and their applications. AUTO.01.01
  - b Demonstrate knowledge of proper use, storage, and disposal of hazardous materials for an automotive facility according to OSHA regulations.\* (B4) AUTO.01.02
  - c Explain the way in which waste gasses, emissions, and other environmentally destructive substances are generated and their effects on the environment. AUTO.01.03
  - d Describe a safe working environment for both employees and the shop environment. AUTO.01.04
  - e Demonstrate and explain knowledge of personal safety practices such as eyewear, clothing, footwear, and personal protective equipment (PPE).\* (B5) AUTO.01.05
  - f Demonstrate and explain knowledge of shop safety procedures when performing tasks, such as raising a vehicle with a floor jack.\* (B6) AUTO.01.06
  - g Identify basic hand tools and their usage in the automotive industry.\* (B7) AUTO.01.07
- 2 Customer Relations and Shop Procedures: Explain the basic processes and procedures for maintaining a clean, safe and customer-friendly shop. AUTO.02
  - a Interpret repair and work orders including differentiating between parts and labor cost.\* (A1) AUTO.02.01
  - b Differentiate between flat rate labor and hourly labor.\* (A2) AUTO.02.02
  - c Explain what is included in an automobile maintenance schedule.\* (A3) AUTO.02.03
- 3 Explain scientific principles in relation to chemical, mechanical, and physical functions for various engine and vehicle systems. AUTO.03
  - a Demonstrate the operating principles of internal and external combustion engines AUTO.03.01
  - b Describe basic valve train operation and configuration, such as DOHC, SOHC, OHV, and flathead.\* (C8) AUTO.03.02
  - c Describe basic engine cylinder configurations such as V, inline, and horizontally opposed.\* (C9) AUTO.03.03
  - d Identify and describe the function of the basic engine components.\* (C10) AUTO.03.04
  - e Describe principles of pneumatic and hydraulic power and their applications. AUTO.03.05







- e Diagnose causes and apply cures of paint defects. [AUTO.12.05](#)
- f Prepare vehicles for final detail. [AUTO.12.06](#)