



Automotive Technology Course Descriptions

AUTOMOTIVE TECHNOLOGY

AUT1080 _____ (3-0) 3 cr. hrs. Introduction to Auto Tech

Course will impart the knowledge necessary to work safely with automotive shop chemicals, basic hand tools, and power tools. The student will learn how to properly raise a vehicle for service with a floor jack and how to safely lift a vehicle. This course will familiarize the student with the Occupational Safety and Health Administration (OSHA) and the Hazard Communications Standard (HCS) Material Safety Data Sheets (MSDS).

AUT1200 _____ (3-0) 3 cr. hrs. Auto Electrical Systems I

Introductory course covers the fundamentals of automotive electrical systems, including basic electrical theory, circuit design, and common electrical components. Students will learn to read wiring diagrams and perform basic diagnostic procedures using multimeters and other diagnostic tools. Hands-on lab activities reinforce theoretical knowledge.

AUT1210 _____ (0-0) 3 cr. hrs. Automotive Braking Systems Drum

Provides an in-depth look at drum brake systems used in modern vehicles. Students will learn about the components, operation, and maintenance of drum brakes, as well as diagnostic techniques for common issues. Practical lab sessions will focus on inspection, adjustment, and repair of drum brake systems.

AUT1220 _____ (3-0) 3 cr. hrs. Auto Electrical System II

Building on the basics, this course delves deeper into complex automotive electrical systems, including advanced circuit analysis and diagnostics. Topics include battery technology, starting and charging systems, and electronic control units (ECUs). Students will develop skills in troubleshooting and repairing electrical faults in various automotive systems.

AUT1240 _____ (3-0) 3 cr. hrs. Auto Electrical Systems III

Advanced course focuses on the integration and troubleshooting of sophisticated automotive electrical systems. Topics include advanced diagnostics, CAN bus communication, and hybrid vehicle electrical systems. Students will engage in complex diagnostic scenarios and repair procedures, preparing them for high-level electrical system challenges.

AUT1320 _____ (3-0) 3 cr. hrs. Auto Braking Systems-Disc

Explores disc brake systems, covering their design, operation, and maintenance. Students will learn about the components of disc brakes, including calipers, rotors, and pads, as well as diagnostic and repair techniques. Hands-on labs will provide experience in servicing and troubleshooting disc brake systems.

AUT1400 _____ (3-0) 3 cr. hrs. Auto Steering & Suspension

Covers the principles and components of automotive steering and suspension systems. Students will study various types of suspension systems, steering mechanisms, and alignment procedures. Practical labs will involve inspecting, diagnosing, and repairing steering and suspension issues to ensure vehicle safety and performance.

AUT1500 _____ (3-0) 3 cr. hrs. Emissions & Fuel Control Systems

Examines the systems and technologies used to control vehicle emissions and manage fuel delivery. Topics include catalytic converters, oxygen sensors, and fuel injection systems, as well as regulations and standards for emissions. Students will learn diagnostic and repair techniques for maintaining compliance with emissions standards.

AUT1600 _____ (3-0) 3 cr. hrs. Auto Heating & Air Conditioning

Focuses on the principles and operation of automotive heating, ventilation, and air conditioning (HVAC) systems. Students will learn about the components and functions of HVAC systems, as well as diagnostic and repair procedures for common issues. Hands-on labs will involve testing, servicing, and troubleshooting HVAC components.

AUT1700 _____ (3-0) 3 cr. hrs. Auto Tire & Wheel Alignment

Covers tire construction, selection, and maintenance, as well as wheel alignment principles and procedures. Students will learn about tire balancing, alignment angles, and the equipment used in alignment services. Practical sessions will focus on performing alignments and diagnosing related issues to ensure proper vehicle handling and tire wear.

AUT1800 _____ (3-0) 3 cr. hrs. Auto Electronic Test Equipment

Introduces students to the electronic test equipment used in diagnosing and repairing modern automotive systems. Topics include the use of oscilloscopes, scan tools, and other diagnostic instruments. Students will gain hands-on experience in utilizing these tools to troubleshoot and resolve electrical and electronic faults.

AUT1900 _____ (3-0) 3 cr. hrs. Auto Tech Internship I

Course includes work experience in an automotive business with documented work hours and weekly reflections on various on-the-job experiences.

AUT1920 _____ (3-0) 3 cr. hrs. Auto Tech Internship II

Course is a continuation of prior work experience in an automotive business, with additional documented work hours and weekly reflections on various on-the-job experiences.