

# AUTOMOTIVE TECHNOLOGY

- Automotive Maintenance and Light Repair, Certificate of Achievement
- Automotive Technology, Associate in Science
- Automotive Technology, Certificate of Achievement
- Emission Specialist, Certificate of Achievement

## Automotive Technology (AUTO)

### AUTO 88 - Automotive Service Management (0.5 units)

Letter Grade (LG) or Pass/No Pass (P/NP) •

This class introduces the critical concepts and processes for running the business end of an automotive service enterprise. Key topics include profits, business analysis, workflow, computerized shop management systems, communication, customer relationship management, and more.

### AUTO 90 - Independent Study (0.5-4 units)

Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 25.5-204 hours lab

This course provides a framework for this academic discipline, which is designed to enrich the student's experience beyond current curriculum offerings. The program of study, research, reading, or activity is tailored to student needs and interests. When the student has identified an instructor to supervise his/her program of study, the agreement is recorded on a form available in the Admissions and Records Office.

*Advisory: Completion of or concurrent enrollment in ENGL 1A or ENGL 1AE*

*Credit transferable: Transfers to CSU*

### AUTO 100 - Introduction to Automotive Technology (4 units)

Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 51 hours lecture; 51 hours lab

This course provides an introduction to the automotive technology program and profession. A survey course, it covers the basic operation and maintenance of the modern automobile. Students get laboratory experience performing service and minor repairs.

*Advisory: Completion of or concurrent enrollment in ENGL 1A or ENGL 1AE*

*Credit transferable: Non-transferable*

*GE Credit: MPC E2 Career Exploration*

### AUTO 101 - Engine Repair (4 units)

Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 34 hours lecture; 102 hours lab

This course covers repair and rebuilding of modern automotive engines. Topics include theory, disassembly, cleaning, inspection, diagnosis, and failure analysis. Provides preparation for Automotive Service Excellence (ASE) certification in A1 area. Portions of instruction may be offered online; may also be offered fully online.

*Pre/Corequisite(s): AUTO 100*

*Credit transferable: Non-transferable*

### AUTO 102 - Basic Automotive Electricity and Electronics (4 units)

Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 51 hours lecture; 75 hours lab

This introductory course in automotive electricity/electronics is designed to provide the student with a solid foundation in electrical principles, including terminology and the operation and troubleshooting of electrical and electronic circuits and components. Portions of instruction may be offered online; may also be offered fully online.

*Credit transferable: Non-transferable*

### AUTO 103 - Engine Performance (4.5 units)

Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 63.75 hours lecture; 38.25 hours lab

This course is a study of the engine sub-systems responsible for good engine performance, reduced emissions, and fuel economy. Systems to be covered include ignition, fuel, emission, and computer controls. This course meets the Level 1 requirements for a Smog Check Inspector License. Portions of instruction may be offered online; may also be offered fully online.

*Pre/Corequisite(s): AUTO 100; AUTO 101; AUTO 102*

*Credit transferable: Non-transferable*

### AUTO 104 - Automotive Electrics (2.5 units)

Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 29.75 hours lecture; 38.25 hours lab

This course is a study of batteries, battery management, charging and starting systems found on modern automobiles. Topics include electric and hybrid electric powertrains. Portions of instruction may be offered online; may also be offered fully online.

*Pre/Corequisite(s): AUTO 100*

*Advisory: AUTO 102*

*Credit transferable: Non-transferable*

### AUTO 105 - Automotive Electrical Circuits (2.5 units)

Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 25.5 hours lecture; 51 hours lab

This course is a study of the electrical systems found on modern automobiles. Topics include electrical test equipment, wiring diagrams, lighting circuits, various advanced body electrical circuits, and controls. Primary emphasis is put on diagnosis, testing, and repair. This course, in combination with AUTO 104, covers preparation for ASE Certification in A6 area.

*Pre/Corequisite(s): AUTO 100*

*Advisory: AUTO 102*

*Credit transferable: Non-transferable*

### AUTO 106 - Automotive Brake Systems and Safety Inspection (4 units)

Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 51 hours lecture; 51 hours lab

This course is a study of automotive braking systems. Emphasis is placed on the theory, operation, diagnosis and repair of modern braking systems. This course is preparation for ASE Certification in A5 area.

*Pre/Corequisite(s): AUTO 100*

*Advisory: AUTO 102*

*Credit transferable: Non-transferable*

### AUTO 107 - Automatic Transmissions and Transaxle (4 units)

Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 51 hours lecture; 68 hours lab

This course covers theory, operation, and repair of automatic transmissions and transaxles. It includes practical experience in troubleshooting and rebuilding. This course is preparation for ASE Certification in A2 area.

*Pre/Corequisite(s): AUTO 100*

*Advisory: AUTO 103; AUTO 104*

*Credit transferable: Non-transferable*

**AUTO 108 - Manual Transmissions and Drivetrains (4 units)**

*Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 51 hours lecture; 51 hours lab*

This course covers operation, service, and repair of manual transmissions and transaxles. Topics also include clutches, drive lines, differentials, four-wheel-drive transfer cases and rear axles. This course is preparation for ASE Certification in A3 area.

*Pre/Corequisite(s): AUTO 100*

*Credit transferable: Non-transferable*

**AUTO 111 - Automotive Steering and Suspension (4 units)**

*Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 51 hours lecture; 51 hours lab*

This course is a study of modern automotive steering and suspension systems. Topics include front-end geometry and alignment procedures; wheels, hubs and tires; suspension system design; and diagnosis and repair of steering systems. This course is preparation for ASE Certification in A4 area.

*Pre/Corequisite(s): AUTO 100*

*Credit transferable: Non-transferable*

**AUTO 161 - Supervised Automotive Trade Experience I (4 units)**

*Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 51 hours lecture; 51 hours lab*

This is a practical course designed to help students prepare for employment in the automotive service industry. Students develop professional work habits and professional communication skills in a functioning repair shop.

*Prerequisite(s): AUTO 100 or equivalent*

*Credit transferable: Non-transferable*

*Materials fee: \$45*

**AUTO 162 - Heating, Ventilation, and Air Conditioning Trade Experience (2 units)**

*Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 17 hours lecture; 51 hours lab*

This course helps students learn basic air conditioning service procedures. It also further develops students' basic service and repair service skills in a professional work environment. Portions of instruction may be offered online.

*Pre/Corequisite(s): AUTO 100*

*Credit transferable: Non-transferable*

**AUTO 170 - Smog Check Inspection Procedures (2.5 units)**

*Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 34 hours lecture; 34 hours lab*

This course is an automotive technician training program for California's Smog Inspection Program. It meets the Bureau of Automotive Repair (BAR) Level 2 requirements for obtaining a Smog Inspector License. This training provides students the procedural knowledge, skills, and abilities needed to perform smog check inspections. Portions of instruction may be offered online.

*Advisory: AUTO 103*

*Credit transferable: Non-transferable*