

AUTOMOTIVE BASIC SKILLS WITH BASIC ENGINE PERFORMANCE - CAREER PATHWAY CERTIFICATE OF COMPLETION (CPCC)

Description

The Automotive Basic Skills with Basic Engine Performance Career Pathway Certificate of Completion is designed to capture a range of skills that are required for the automotive industry, including basic internal combustion engines and theory, basic direct current electrical and schematic understanding, and vehicle inspection. The certificate also introduces the operation, diagnosis, and repair of the carburetor system and the points ignition system. The largest portion addresses shop and vehicle safety.

Green statement: As with all engine performance related subjects, fuel delivery in carburetors affects air quality. This class introduces the skill of reducing hydrocarbon and carbon dioxide emissions.

The certificate prepares students for the [Automotive Service Excellence certification](#) in (G1) Maintenance and Light Repair.

Program Learning Outcomes

Upon successful completion of the certificate, students will be able to:

1. Demonstrate correct voltage, current, and resistance measurements on series and parallel circuits using a digital multimeter.
2. Describe the fundamental principles of automotive shop safety and tool care.
3. Describe and apply basic mechanical skills to the tasks of basic vehicle identification, inspection, routine maintenance, handling, and lubrication.
4. Demonstrate the correct name and function of basic hand tools.
5. Demonstrate the use of an automotive diagnostic scan tool and record various data from the scan tool.
6. Demonstrate and apply safety protocols while working in the shop, around small gas engines, and handling hazardous materials.
7. Gain exposure and experience with the operation, diagnoses, and repair of the carburetion system and the points ignition system.

Entrance Requirements

Academic Entrance Requirements

Required:

- Students must complete the following five courses before enrolling in other AUT courses: AUT 101 Basic Electricity for Automotive, AUT 106 Automotive Program Orientation, AUT 107 Mechanical Systems I, AUT 110 Small Gas Engines, and AUT 115 College Success for Automotive Technology

Recommended:

- High school diploma or GED

Additional Costs (Beyond Standard Tuition/Fees and Textbooks)

Material Costs

- Automotive Service Excellence certification: up to \$450 total for all eight areas of testing
- Tools: \$1,500 to \$2,500
- Materials (coveralls, safety glasses, work jacket, safety shoes, t-shirts): \$200

Enrollment Fees

- All AUT courses AUT 260 Diesel Performance II and higher: \$200 course fee
- All AUT courses lower than AUT 260 Diesel Performance II: \$15 course fee

Course Requirements

Course	Title	Credits
Core Courses		
AUT 101	Basic Electricity for Automotive	2
AUT 106	Automotive Program Orientation	1
AUT 107	Mechanical Systems I	3
AUT 110	Small Gas Engines	3
AUT 112	Basic Engine Performance I	1
AUT 113	Basic Engine Performance II	1
AUT 115	College Success for Automotive Technology	2
Total Credits		13

Performance Standards

- Academic Requirements:
 - Students must have a 2.0 cumulative GPA to earn a COCC certificate or degree.
 - All courses in the program must be completed with a grade of C or higher.

Sample Plan

First Year		
Fall		Credits
AUT 101	Basic Electricity for Automotive	2
AUT 106	Automotive Program Orientation	1
AUT 107	Mechanical Systems I	3
AUT 110	Small Gas Engines	3
AUT 115	College Success for Automotive Technology	2
Credits		11

Winter

No courses offered for this program winter term

Credits		0
Spring		
AUT 112	Basic Engine Performance I	1
AUT 113	Basic Engine Performance II	1
Credits		2
Total Credits		13