

AUTOMOTIVE HYBRID ELECTRIC VEHICLES (HEV) TECHNICIAN - LEVEL 2 - CAREER PATHWAY CERTIFICATE OF COMPLETION (CPCC)

Description

The Automotive Hybrid Electric Vehicles Technician Level 2 Career Pathway Certificate of Completion is a continuation of the Automotive Hybrid Electric Vehicles Technician Level 1 Career Pathway Certificate.

Students will analyze and repair electric drive vehicles as it applies to the state-of-health and predictive maintenance on vehicles with electric drive systems. Students spend significant time analyzing vehicles with electric drive systems. Emphasis will be placed on high voltage battery systems and inverter diagnosis.

The certificate prepares students for the [Automotive Service Excellence certification](#) in (A6) Automotive Electrical/Electronic Systems and (L3) Light Duty Hybrid/Electric Vehicle Specialist.

Program Learning Outcomes

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

1. Demonstrate appropriate basic technical knowledge and practical skills necessary for employment in automotive technology from previous basic skills courses, plus second level electrical/electronic courses.
2. Describe and perform diagnosis and repair hybrid electric and electric vehicles.
3. Develop the capacity to train other technicians on the safety precautions and procedures when working on hybrid electric and electric vehicles.
4. Perform testing and restoration of hybrid electric and electric vehicle drive motors and battery systems.
5. Describe the use of oscilloscopes, multimeters, and hand-held testers to assist in diagnosis.
6. Perform the use of manufacturer and generic scan tools to capacity.

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 PROGRAM 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 102	Automotive Electric I	5
AUT 103	Automotive Electric II	2
AUT 104	Automotive Electric III	2
AUT 105	Diesel Performance I	2
AUT 106	Automotive Program Orientation	1
AUT 107	Mechanical Systems I	3
AUT 110	Small Gas Engines	3
AUT 111	Computerized Engine Controls	5
AUT 115	College Success for Automotive Technology	2
AUT 205	Engine Performance I	2
AUT 206	Engine Performance II	2
AUT 280	Hybrid Electric Vehicles I	4
AUT 281	Hybrid Electric Vehicles II	4
Total Credits		39

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		
AUT 102	Automotive Electric I	5
AUT 103	Automotive Electric II	2
AUT 105	Diesel Performance I	2
AUT 205	Engine Performance I	2
Credits		11
Spring		
AUT 104	Automotive Electric III	2
AUT 111	Computerized Engine Controls	5
AUT 206	Engine Performance II	2
Credits		9
Second Year		
Fall		
AUT 280	Hybrid Electric Vehicles I	4
Credits		4
Spring		
AUT 281	Hybrid Electric Vehicles II	4
Credits		4
Total Credits		39