AUTOMOTIVE CLEAN ENERGY DIESEL TECHNICIAN (ADVANCED) - CAREER PATHWAY CERTIFICATE OF COMPLETION (CPCC)

Description

The Automotive Clean Energy Diesel Technician (Advanced) Career Pathway Certificate of Completion trains students to be the key troubleshooter of a vehicle's drivability problems on the latest light duty diesel systems. Students identify powertrain malfunctions using the latest computer diagnostic equipment. The certificate also trains students on the operational principles and theory of hydraulically actuated electronically controlled unit injection systems, electronic unit injection systems, and common rail systems.

This certificate applies toward Automotive Service Excellence certification in (A6) Automotive Electrical/Electronic Systems and (A9) Diesel Engine Performance.

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. Develop safety strategies in relation to high-pressure injection systems.
3. Describe diesel engine dynamics and basic operation.
4. Describe the evolution of the diesel fuel systems.
5. Perform On-Vehicle testing on EUI* and HUEI* Systems
6. Describe the operation of exhaust gas recirculation (EGR) and perform testing.
7. Perform On-Vehicle (DPF) Diesel Particulate Filter cleaning and (DOC) Diesel Oxidation Catalyst testing.
8. Describe Controller Area Network (CAN) and Society of Automotive Engineers (SAE) J1939 as they apply to Diesel onboard communication.
9. Develop sustainable practices of recycling fluids and batteries.

ENTRANCE REQUIREMENTS

Academic Entrance Requirements

Required:

- Students must complete the following five courses prior to proceeding into 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 115	College Success for Automotive Technology	2
AUT 111	Computerized Engine Controls	5
AUT 205	Engine Performance I	2
AUT 206	Engine Performance II	2
AUT 260	Diesel Performance II	4
Total Credits		**35**

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		
No program courses offered fall term		
	Credits	**0**
Winter		
No program courses offered winter term		
	Credits	**0**
Spring		
AUT 260	Diesel Performance II	4
	Credits	**4**
	Total Credits	**35**