

# AUTOMOTIVE TECHNOLOGY: INTERMEDIATE LEVEL TECHNICIAN (CERT)

The Intermediate Level Technician certificate option prepares students for employment as an automotive technician. Through courses focusing on the electrical and mechanical areas of the vehicles, students learn how to use specialty equipment and hand tools found in automotive service and repair facilities. Core topics include maintenance and service, Electrical, Emissions, and Transmission service. The design, function, and operation of all these systems is also included. Completers are employed as general service technicians, quick service technicians, apprentice technicians, or are self-employed. Cognitive ability, hand-eye coordination are recommended for those entering the program. This program is designed to give the completer the necessary skills to enter the automotive service industry or strengthen the knowledge of entry-level incumbent workers as they progress in their careers in the automotive service industry.

## Program Student Learning Outcomes

- List safety precaution in using tools and equipment
- Understand what different measurements mean in both United States customary and metric measurement systems
- Locate applicable service information and specifications using factory manuals and shop computer program (All Data)
- List the functions that the different kinds of equipment can test and the problems they can diagnose
- Operate hand held (scan-tool) diagnostic tools to perform cylinder balance and compression testing
- Accurately identify automatic transmissions by using identification tags, serial numbers, bellhousing and pan gaskets
- Describe how and why automatic transmissions require periodic service
- Describe how transmission/transaxle hydraulics use force, pressure, and mechanical advantage
- Describe how mainline, throttle, and governor pressure are used in automatic transmissions
- State why it is important to keep components in subassemblies when disassembling a transmission or transaxle
- Identify the parts of a planetary gearsets
- Measure and adjust the clutch pedal free travel for the following types 1. Mechanical linkage 2. Cable type 3. Hydraulic
- Identify all the components of a manual transmission
- Remove and replace manual transmission
- Overhaul manual transmission with overdrive
- Measure and adjust manual transmission shift linkage
- Recognize advanced electrical automotive problems and determine appropriate repairs
- Identify correct diagnosis procedures for detecting and repairing electrical faults on modern vehicles
- Complete diagnosis and repair of advanced electrical faults in controller area networking (CAN) systems utilizing diagnostic equipment

- Describe the operation and function of high voltage electric and hybrid vehicles

## Program Requirements

Code Number	Course Title	Units
<b>Required Courses</b>		
AUTO 120	Automatic Transmissions and Transaxles	5.0
AUTO 130	Manual Drivetrain and Axles	5.0
AUTO 265	Advanced Automotive Electrical	1.0
AUTO 110	Automotive Engines	5.0
<b>Total Units</b>		<b>16</b>