

AMT 172 : HEV II - Preventive Maintenance and Repair

Credits: 3

Class Hours: 1 lecture and 6 lab

Prerequisites: "C" or higher in AMT 171 or automotive industry work experience with instructor's approval.

Recommended: Basic electrical knowledge of Ohm's Law and proper use of a DMM to determine voltage drop, shorts, opens, and resistance problems. Knowledge on basic theory of operation on automotive electrical and mechanical subsystems.

Description: This course is designed to familiarize the student with hybrid and electric vehicle safety, hybrid internal combustion engines (ICE), regenerative braking systems, high voltage climate control system, power inverter and battery pack cooling systems, high voltage analysis tools used, high voltage safety systems, and 12 volt systems used in hybrid and electric vehicles. Hands-on application to safety disconnect, use of high voltage analysis tools to perform basic checks, and perform service and preventive maintenance on hybrid and electric vehicles.

Semester Offered: Spring

Course Student Learning Outcomes (CSLOs):

1. Identify high voltage circuits and systems on Hybrid and Electric Vehicles.
2. Identify safety precautions, location of vehicle high voltage circuit disconnect, and procedures to safely disable system.
3. Use appropriate tools, testing and measuring equipment to diagnose, test, inspect and perform preventive maintenance, service and repairs on Hybrid and Electric Vehicle systems and components.
4. Demonstrate an understanding of personal and environmental safety practices, and perform all tasks while observing all industry-standard safety practices.