

AMT 171 : HEV I - Introduction to Hybrid and Electric Vehicle Technology

Credits: 3

Class Hours: 1 lecture and 6 lab

Prerequisites: "C" or higher in AMT 141 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 the safety, electrical and electronic theories related to hybrid and electric vehicles, high voltage analysis tools used in hybrid and electric vehicles, high voltage safety systems, AC induction electric machines, and permanent magnet electric motors theory and construction. Hands-on application to safety disconnect and use of high voltage analysis tools to perform basic checks.

Semester Offered: Fall

Course Student Learning Outcomes (CSLOs):

1. Demonstrate an understanding of basic principles of theory and operation on Hybrid and Electric Vehicles.
2. Identify high voltage circuits and systems on Hybrid and Electric Vehicles.
3. Demonstrate proper procedures to safely disable vehicle high voltage circuit systems.
4. Locate and use reference training materials and use appropriate tools, testing and measuring equipment to perform basic system checks and needed repair/service on Hybrid and Electric Vehicle systems.
5. Perform all tasks while observing all industry-standard personal and environmental safety practices.