

# Hybrid Electric Vehicle Technology

## HYBRID

## VEHICLE TECHNOLOGY



Have you pulled your car up to the gas pump lately and been shocked by the high price of gasoline? Or maybe you're worried that your car is contributing to the greenhouse effect. The auto industry has the technology to address these concerns. It's the hybrid car. There are lots of hybrid models on the market these days, and most automobile manufacturers have announced plans to manufacture their own versions.

How does a hybrid automobile work? What goes on under the hood to give you 20 or 30 more miles per gallon than the standard automobile? And does it pollute less just because it gets better gas mileage? Thorough training from Despark, you will get to understand how this technology works, and our lecturers will give you some practical training on how to do maintenance for hybrid car.

There are 3 levels under this Automotive Course which is Fundamental, Intermediate and Advance Level.

Fundamental Course Outline Intermediate Course Outline Advanced Course Outline

- Hybrid Vehicle
- Electric Vehicle
- Driving and owning a hybrid electric vehicle
- Classifications of hybrid electric vehicles
- Belt alternator starter systems
- Common features of most hybrids
- High voltage safety
- Electric shock potential
- De-Powering the high-voltage system
- Practical session:
  - Using safety equipment
  - Identifying the HV cables
  - Disable power source
  - Locating HV and auxiliary battery

- Checking HV battery voltage
- Checking auxiliary battery voltage
- Collision and repair industry issues
- Moving and towing a hybrid
- Hybrid batteries and battery service
- Removing the high voltage batteries
- Practical Session
  - Safety measures before dismantling HV battery
  - Remove and install (HV) Battery
  - Service battery cooling system
  - Jump-starting
  - Service inverter cooling system
  - Check inverter cooling pump operational
  - Routine service procedures
  - Electric motors, generators and controls
  - Capacitors in hybrid controllers
  - Converters and inverters
  - Practical Session
    - Checking high voltage from capacitor
    - Testing the converters and inverters voltage
    - Diagnosis using Scan tool