



Center for Advanced
Automotive Technology

C · A · A · T

2018 Fall Professional Development Course Electric-Drive Vehicles Technology

Benefits of Attending

By attending this workshop, you will be able to:

- Explore the state-of-the-art advanced automotive technology including electric-drive vehicles, fuel cell vehicles, connected and autonomous vehicles, energy storage systems, power electronics and traction motors;
- Receive course materials and a certificate of completion certification accredited by WSU; and
- Discuss the emerging technologies, challenges, and development closely with professionals.

Who Should Attend

The workshop is designed to provide fundamentals of electric-drive vehicle powertrain configurations, electric propulsion components, energy storage systems, power electronics and electric machines to

- 4-year college/university engineering or technology faculty;
- Community college instructors;
- High school science or technology teachers; and
- Automotive industry professionals.

Workshop Content

Topic 1: Overview of HEV/PHEV/EV/FCV

- Roadmap of vehicle electrifications
- Overview of vehicle road load
- Hybrid powertrains and components
- Fuel-cell systems for vehicle accessories
- Fuel-cell powered systems for vehicles
- Hydrogen storage systems for fuel-cell and infrastructure

Topic 2: Advanced Battery Systems for Hybrid and Electric Vehicles

- Types of On-board Energy Storage
- Fundamentals of electrochemistry
- Battery cell characteristics, monitoring, and balancing
- Battery pack design, control, and management

Topic 3: Power Electronics and Traction Motor for Electric-drive Vehicles

- Fundamentals of power electronics and traction motor
- Power switch analysis and controls of power electronics
- Analyze and design of traction motor

Topic 4: Cooperative Connected Vehicle

- Connected vehicles and autonomous Development
- V2X fundamentals: principles, standards, consortiums and prior work
- Government mandate
- Vehicle to Vehicle, Vehicle to Infrastructure, and Vehicle to Pedestrian safety applications.
- V2X challenges: security and privacy, positioning, deployment, scalability.
- DSRC versus cellular based technology for V2X



Time

9:00 a.m. - 5:00 p.m.
October 2 & 3, 2018

Location

Automotive Technology Department
Sinclair Community College
444 West Third Street
Dayton, OH 45402

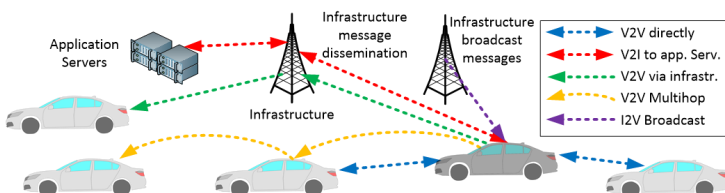
Stipend

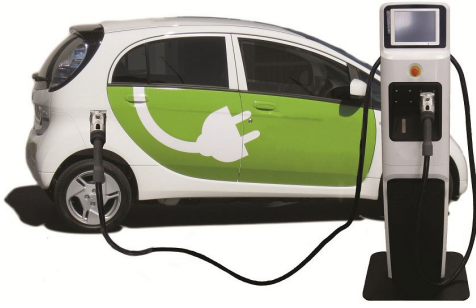
There is no registration fee for attending this workshop. Each participant will receive a **\$150** stipend upon completion of the workshop.

To Register

Submit the application form on the second page of the flyer by Monday, September 24, 2018 to:
geneliao@wayne.edu

Seats are limited, please apply early. If you have additional questions, please contact Gene Liao at 313-577-8078 or above email.





Application Form

2018 Fall Professional Development Course Electric-Drive Vehicle Technology

PLEASE READ THE INFORMATION BELOW, TYPE OR CAREFULLY PRINT

First Name _____ Last Name _____

Institution / Company Name _____

Position / Title _____

Major Responsibility / Purpose

(Please specifically describe the program and courses you are teaching, and your plan to use the workshop materials for your program)

Street Address _____

City _____

State _____

Zip _____

Phone _____

Email _____

S.S. Number needs to be provided by all attendees for stipend purpose. A W-9 form will be sent by us requesting this information once your application has been accepted.

PLEASE DO NOT ENCLOSE YOUR S.S.N. ON THIS FORM.

Submit your application to geneliao@wayne.edu or fax to 313-577-1781 by **September 24, 2018**. For additional questions, please contact Gene Liao at 313-577-8078.

