

MECH 459 - Fundamentals of Hybrid Electric Vehicles

Instructor: Dr. Zuomin Dong

- **Course Description**

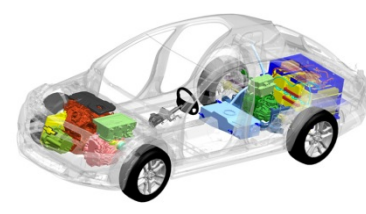
General Background of Hybrid Electric Vehicle (HEV) Related Technologies and Vehicle Modeling; Power Plants, Electric Propulsion Systems, Transmissions, and Onboard Energy Storage System of HEVs; Vehicle Performance Modeling and Simulation Using MATLAB-Simulink Based Tools; Design and Optimization of Vehicle Powertrain System; Other Key Issues in HEV Design and Developments; HEV/EcoCAR2 Design Project/Case Study.

- **Course Website:** <http://www.me.uvic.ca/~mech459/>

- Offered in the **Fall 2013**, (3B term); 5:00 pm - 8:00 pm; Wednesdays

- **Rational and Arrangement** - This technical elective course will replace ENGR280 in Term 3B. The missed ENGR280 can be taken by enrolled students in the following 4A Term.

This is not a conventional course, much of the materials are from technical references and research literatures. The introductory nature of the course is to provide a quick boost on needed background knowledge for EcoCAR2 participants. Students will need to do various assigned readings. After the “introductions” and “examples”, many self-directed “labs” will be needed to get familiar with the modeling and simulation tools. Students will be asked to have a new and different PHEV design and simulation results to support the design and focused study on specific new HEV technology. The course is designed to provide the ability to better participate in the design and development of the future zero-emission PHEV. Some of the cutting edge software tools and facilities at our Green Vehicle Centre will be available.



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