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The University of Michigan’s College of Engineering was founded in 1853. Today, Michigan Engineering and its academic departments rank in the top ten in their respective areas (U.S. News and World Report). The faculty’s ongoing research and industry consultation in engineering contribute to Michigan’s strength and impact on professional development. Michigan Engineering’s total research expenditures for fiscal 2012 exceeded $190 million, placing it in the forefront of collegiate engineering research in the U.S.

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Drive-by-Wire
Dr. Timothy Gordon and Dr. Hemant Sardar
Drive-by-wire systems are becoming more commonplace in automotive designs. This short course presents subjects including drive-by-wire hardware, control strategies, simulating the feel of a mechanical system with an electrical system, and the pros and cons of a drive-by-wire system.

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Dr. David Chesney
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Vehicle Control Systems
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Introduction to Electrical Energy Storage
Dr. Don Siegel
This short course provides students with an overview of the fundamental operating principles of batteries and ultra-capacitors from the perspective of automotive applications.

Telematics
Dr. Wayne Stark
Learn about the use of communication and navigation capabilities to provide services to drivers such as vehicle diagnostics, navigation, real-time traffic information, stolen vehicle location, crash notification, and infotainment. The course also reviews the current and future underlying technologies used in telematics applications.

Hybrid Vehicles
Dr. Huei Peng
This short course covers the major components of hybrid vehicles, including batteries, motors/power electronics, transmission and controls, with emphasis on vehicle control hierarchy and power management algorithms, as well as the control and design of split hybrid electrical vehicles.

9 Industry Experts and U-M Professors

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Research Investigator in Electrical Engineering and Computer Science

Dr. Timothy Gordon
Professor of Mechanical Engineering

Dr. Jack Hu
Professor of Mechanical Engineering and Industrial and Operations Engineering

Dr. Chris Mi
Associate Professor of Electrical and Computer Engineering

Dr. Huei Peng
Professor of Mechanical Engineering

Dr. Hemant Sardar
Assistant Research Scientist U-M Transportation Research Institute

Dr. Don Siegel
Assistant Professor of Mechanical Engineering

Dr. Steve Skerlos
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Dr. Wayne Stark
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In order to obtain a certificate a student must complete any four courses from the offerings, each of which has a final test. Students must score 80% or higher on each of the four final course tests to be eligible for a certificate. Courses may also be taken individually by those who are not interested in earning a certificate. (No test is required if certification is not desired).

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