

ELECTRIC-DRIVE VEHICLE ENGINEERING (M.S.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (<http://bulletins.wayne.edu/graduate/general-information/admission/>) for requirements. Additionally, the Grade Point Average required for regular admission to M.S. degree program is 3.0 or above. Qualified admission (2.5 - 3.0) is possible if an applicant has significant relevant professional experience. The program will admit students with Bachelor's degrees or the equivalent in engineering from an accredited college or university. Students with mathematics-based science degrees will be considered for admission on a case-by-case basis. No other specific admission requirements are needed, however, letters of recommendation, a statement of objectives, and Graduate Record Examination (GRE) scores are encouraged to aid the admission evaluation process.

Program Requirements

A minimum grade point average of 3.00 is required for the M.S. in Electric-drive Vehicle Engineering. A maximum of one course in which a "C" has been received may be used to meet graduation requirements, provided the "C" is offset by equivalent credits of "A" to maintain the required 3.00 average.

This Master of Science degree is offered under the following options:

Plan A: Thirty credits, including a six-credit thesis.

Plan C: Thirty credits of course work in an approved EVE Plan of Work.

Both options require at least twelve credits of any Electric-drive Vehicle Engineering (EVE) courses, including two core courses:

Code	Title	Credits
EVE 5110	Fundamentals of Electric-drive Vehicle Engineering	3
or EVE 5115	Fundamentals of Electric-drive Vehicle Modeling	
EVE 5120	Fundamentals of Battery Systems for Electric and Hybrid Vehicles	4

Requirements for both options include at least six credits of 7000-level or higher course work. The 7000-level or higher course requirements can be satisfied through EVE courses, directed studies (EVE 7990), industry internship (EVE 7991), or thesis credits (EVE 8999) of EVE-related projects, or approved 7000-level or higher classes from other departments in the College of Engineering.

The elective eighteen credits can be from other departments in the College of Engineering, such as:

Code	Title	Credits
Computer Science		
CSC 5100	Introduction to Mobility	3
CSC 6280	Real-Time and Embedded Operating Systems	3
CSC 7991	Advanced Topics in Computer Science	1-4
CSC 8260	Seminar in Networking, Distributed Systems and Parallel Systems	3
Electrical and Computer Engineering		
ECE 5330	Modeling and Control of Power Electronics and Electric Vehicle Powertrains	3
ECE 5340	Advanced Energy Storage Systems for Electrification of Vehicles	3

ECE 5410	Power Electronics and Control	3
ECE 5620	Embedded System Design	4
ECE 5675	Sensors and Sensor Instrumentation	3
ECE 7690	Fuzzy Systems and Machine Learning	3
ECE 7730	Telematics	4
Industrial Engineering		
IE 6310	Lean Operations and Manufacturing	3
IE 6560	Deterministic Optimization	3
IE 6611	Fundamentals of Six Sigma	3
IE 6840	Project Management	3
IE 7511	Linear and Nonlinear Optimization	3
Mechanical Engineering		
ME 5040	Finite Element Methods I	4
ME 5453	Product and Manufacturing Systems and Processes	4
ME 5800	Combustion Engines	4
ME 5810	Combustion and Emissions	4
ME 7020	Finite Element Methods II	4
ME 7290	Advanced Combustion and Emissions I	4
ME 7451	Advanced Manufacturing II: Material Forming	4
ME 7680	Manufacturing Processing Mechanics	4
ME 8030	Crashworthiness and Occupant Protection in Transportation Systems II	4

All course work must be completed in accordance with the regulations of the Graduate School (<http://bulletins.wayne.edu/graduate/general-information/academic-regulations/>) and the College of Engineering (<http://bulletins.wayne.edu/graduate/college-engineering/academic-regulations/>).