

TO: The Faculty of the College of Engineering

FROM: The Faculty of the School of Mechanical Engineering

RE: MSPE 42600 Internal Combustion Engines – Change in Course title, requisites, and description

The Faculty of the School of Mechanical Engineering has approved the following change. This action is now submitted to the Engineering Faculty with a recommendation for approval.

From:

Original Title:

Internal Combustion Engines

To:

New Title:

Motorsports Powertrain

Reason: The evolution of the powertrain systems in the motorsports industry require a complete revision to this class. As discussed in a recent Industry Advisory Board meeting the members unanimously recommended a complete revision to this course to ensure the learning outcomes of the course are consistent with the skills required of engineers in the industry. The recommendation of a title change provides a foundation for the topics to be taught within the course.

From:

Prerequisites:

ME 20000 Thermodynamics

To:

Prerequisites:

ME 20000 Thermodynamics

MSPE 33000 Systems Engineering for Motorsports

Reason: The inclusion of hybrid and electrical powertrains into the learning outcomes of the class require the addition of MSPE 330000 Systems Engineering for Motorsports as a prerequisite for the class. This ensures students have the subsequent skill sets to be successful in the class.

From:

Course Description:

This course covers the fundamentals of internal combustion engine design and operation, with a focus on high performance. Credits: 3.00

To:

Course Description:

This course will cover fundamentals of hybrid electric and battery electric transportation systems with particular emphasis on high performance vehicles. It will cover powertrain configurations of Hybrid Electric Vehicle (HEV), Plug-in Hybrid Electric Vehicle (PHEV), and Battery Electric Vehicle (BEV). Component sizing and energy management topics will also be covered. Credits: 3.00

Reason: The new course description better aligns the evolution of the learning outcomes of the course to the feedback from alumni, industry partners, and members of the motorsports Industry Advisory Board.



1/25/2025

Christopher E Finch, Professor of Practice and Site Director Motorsports Engineering
School of Mechanical Engineering