

TO: The Faculty of the College of Engineering
FROM: The Faculty of the School of Mechanical Engineering
RE: MSPE 29000 Motorsports Engineering Seminar

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

MSPE 290: Motorsports Engineering Seminar

Credits: 1 credit

Offered: Fall

Prerequisite: Sophomore Standing and MSPE Status

Co-requisite: ENGR 13200 OR EPCS 12100 OR VIP 17912 OR ENGR 16200

Description: An overview of the motorsports industry including types of vehicles, types of competition, careers available, historical perspective, development of pertinent technologies, and brief discussions of engineering related topics that will be covered in more detail in future classes. Interactions with motorsport and mechanical engineering faculty along with motorsports engineers currently working in the industry. Professionalism and ethics are discussed along with topical discussions as related to the motorsports industry in the areas of globalization, cultural differences, and collaboration across cultural boundaries.

ABET General Criteria Outcomes:

- 3 – An ability to communicate effectively with a range of audiences
- 4 – An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- 7 – An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Learning Outcomes:

- Demonstrate knowledge of the motorsports industry and recognize techniques, skills and modern tools of the motorsports industry.
- Apply current knowledge and solve introductory problems relevant to the motorsports industry.
- Possess a general knowledge of the history and evolution of motor racing nationally and internationally.
- Develop technical writing skills beyond those learned in first year engineering.
- Recognize professional, ethical, and societal responsibilities in the context of the motorsports industry.

Background: MSPE 29000 Motorsports Engineering Seminar was developed from MSPE 27200 Introduction to Motorsports, a class taught when the program was part of IUPUI. Transitioning the Motorsports Engineering Program from IUPUI to the School of Mechanical Engineering, Purdue University allowed for a complete review and optimization of the programs plan of study. One result of the review was to align MSPE 29000 with feedback provided by the members of the motorsports industry advisory board and the head of the School of Mechanical Engineering at Purdue University. The credit hour requirement was reduced from 3-credit hour to 1-credit hour to better align with the material taught in the class. Alumni feedback regarding the class commends the class for its ability to provide students with networking opportunities with industry professionals and introduce them to the motorsports faculty.



1/15/2025

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

MSPE 29000 – MOTORSPORTS ENGINEERING SEMINAR

- Description:** An overview of the motorsports industry including types of vehicles, types of competition, careers available, historical perspective, development of pertinent technologies, and brief discussions of engineering related topics that will be covered in more detail in future classes. Interactions with motorsport and mechanical engineering faculty along with motorsports engineers currently working in the industry. Professionalism and ethics are discussed along with topical discussions as related to the motorsports industry in the areas of globalization, cultural differences, and collaboration across cultural boundaries.
- Prerequisites:** Sophomore Standing and MSPE Status
- Co-requisites:** ENGR 13200 Ideas to Innovation II
- Instructor:** MSPE Faculty
- Text:** None Required
- Goals:** This course will provide an overview of the automotive aftermarket and the motorsports industry through the faculty, alumni and motorsports engineering professionals who work in the industry. An overview of the courses within the program along with the unique technical paths within the industry to help students understand the industry and the opportunities contained within. Students will conduct historical, technical safety and technical performance research to gain an appreciation for the global uniqueness of the industry and its impact across cultural differences and boundaries.

ABET General Criteria Outcomes:

After completion of this course, the students should exhibit ability to:

3 – An ability to communicate effectively with a range of audiences

4 – An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

7 – An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Course Level Outcomes:

After completion of this course, the students should exhibit ability to:

- Demonstrate knowledge of the motorsports industry and recognize techniques, skills and modern tools of the motorsports industry.
- Apply current knowledge and solve introductory problems relevant to the motorsports industry.
- Possess a general knowledge of the history and evolution of motor racing nationally and internationally.
- Develop technical writing skills beyond those learned in first year engineering.
- Recognize professional, ethical, and societal responsibilities in the context of the motorsports industry.

Course Topics:

- Achieving Success in College and MSPE
- Review of Courses in the MSPE program
- MSPE Faculty Introductions inclusive areas of research interest
- Networking opportunities with Alumni from MSPE
- Network opportunities with Motorsports Engineering professionals
- Development of technical writing skills from first year courses

Assignment Submission: All assignments will be submitted per the instructions listed at the time the assignment is given. Failure to submit the assignment in the manner that is requested may result in a 0 for that assignment. Therefore, please read and understand what is being asked of you when you are working on and submitting your assignments. All assignments will be submitted via the Assignment Tab in Brightspace unless otherwise noted.

Exams/Quizzes: Unless otherwise noted, all exams and quizzes will be taken during class time. The time allotted for the exam will be delineated at the beginning of the exam. Extra time allotted for the exam is at the instructors' discretion. The official submission time, as delineated by the instructor during the time allotted for the exam, supersedes the submission time noted in Brightspace. The Final Exam will be taken during final exam week at the time as specified by the University Registrar with no exceptions.

Late Work:

- Assignments, Projects, and Exams are due on the specified date at the specified time.

- Late work will not be accepted.
- Valid late work or make-up exams require written instructor permission
- At the instructor's discretion, a 10% per day late penalty may be applied to valid late work.
- The submission date and time on Brightspace or contained within the Assignment will be used as the official submission time.

Bonus:

Bonus problems or assignments may be assigned to help the student better understand difficult material or "make-up" points for poor performance on Exams or Homework. Assigning bonuses are at the discretion of the instructor. The instructor, at his discretion, may elect to not provide bonus points on bonus problems in which the assignment is submitted late.

Grading Policy:

The grading structure for the class is delineated in the table below. The points as allocated may be adjusted during the semester to properly reflect the semester course load. The instructors' expectation is for all students to meet or exceed an average working knowledge of all concepts presented in class. Therefore, the course is graded on a straight scale as shown with the anticipation of the average class performance to be 80% or C+/B-. "Curving" or adjusting grades to reflect class performance should not be inferred or assumed by the students. Completing homework assignments should be considered the minimum requirement to meet basic expectations. Obtaining an above average working knowledge and an above average grade requires significantly more effort, which is at the discretion of the student.

The instructor will adhere to the following guidelines when determining whether a student receives an Incomplete (I) grade for the class. The awarding of an incomplete grade implies the student, working with the instructor, will complete the required course work within an acceptable time frame. Upon successful completion of the course work the instructor will request a grade change from the Universities Registrar.

- Unusual circumstances such as an illness that prevent the student from completing the work
- The student has successfully completed 75% of the required course work
- The student, at the time the incomplete is requested, is successfully passing the course.
Successful completion of the required course work ensures the student will pass the course.

Item	Points	Weighting	Scale	
REP001	200	15%	91-100	= A
REP002	200	20%	90-90.9	= A-
REP003	200	20%	88-89.9	= B+
REP004	200	25%	81-87.9	= B
			80-80.9	= B-
Exams	Points	Weighting	78-79.9	= C+
EX001	200	20%	70-77.9	= C
			60-60.9	= D
			<=59.9	=F