



# FA1 Automotive and Motorsport Engineering

## LEARNING OBJECTIVES

The Automotive and Motorsport Engineering track aims to train graduates with the technical skills required by vehicle manufacturers and component suppliers. Students will learn to design both the vehicle as an integrated system and its components (wheels, suspensions, powertrains, transmissions, chassis, interior, etc.); they will also get knowledge about the production processes typical of the sector and address issues related to motorsport. The automotive sector has always stood out as one of the most dynamic and innovative in the global industrial panorama, evolving to meet the needs of economic and environmental sustainability and safety. Motorsport represents the most extreme and competitive side of automotive engineering in which the most recent technical acquisitions find immediate application and are then gradually implemented into series production.

## PRE-REQUISITES

There are no particular requirements for the students who opt for the Automotive and Motorsport Engineering track. However, good basic skills (mathematics and physics) and in-depth knowledge of machine design and mechanical systems topics are required. Students will face and solve complex, interdisciplinary, and multidisciplinary problems during the training.

## LEARNING OUTCOMES

The mechanical engineer with Automotive and Motorsport Engineering specialization is a professional with a highly multidisciplinary background. At the end of the course, graduates will be able to define the performance of a vehicle or one of its components and will be able to conceive, design, build, and test new design solutions. Practical experiences in the vehicle's design and its subsystems will be combined with traditional teaching through the support of numerous industrial partners.



# FA1 Automotive and Motorsport Engineering

JOB OPPORTUNITIES MINORS

The Automotive and Motorsport Engineering track offers three sub-tracks. "Science and Technology" represents the more general, "Aerodynamics" focuses on aerodynamic aspects, and "Noise Vibration Harshness" deepens the analysis of vibrational and acoustic comfort.

The transversality of the Automotive and Motorsport Engineering track allows students to find work in companies that develop and produce vehicles and components. Safety, sustainability, electrification, integration, and automation are the keywords.

PARTNER UNIVERSITIES

Countless collaborations exist with the most prestigious international universities and several vehicle and component manufacturers. A list of universities where Automotive and Motorsport Engineering students have completed their thesis in recent years is the following: Technische Universität Graz (TU Graz, Austria), École polytechnique universitaire de l'université Lyon-I (Polytech Lyon, France), Technische Universität Berlin (TU Berlin, Germany), Technische Universität München (TUM, Germany), Chalmers Tekniska Högskola (Chalmers, Sweden), Technische Universiteit Delft (TU Delft, The Netherlands), Cranfield University (UK), Clemson University International Center for Automotive Research (CU-ICAR, USA), University of California, Berkeley (UC Berkeley, USA), University of Michigan (UMich, USA), and Virginia Tech (VT, USA).