

# Master degree programme AUTOMOTIVE ENGINEERING

## ENGINEERING > COMMERCIAL VEHICLES > RACE CAR ENGINEERING > TWO-WHEELER ENGINEERING > ALTERNATIVE DRIVES > DESIGN & COMPUTATION > MODELLING & SIMULATION

This programme focuses on sustainable mobility and innovative concepts in automotive engineering. Students have the chance to take part in exciting projects such as the international Formula Student (FS) competition and to gain valuable experience in internships at industry and research institutions. They can also spend a semester studying at one of our partner universities abroad.

We focus on the vehicle as a whole and explore selected subjects of mechanical engineering, electrical engineering and business management. During the second and third semester, students can select from the elective subjects below to develop their personal interests.

### \*Elective Subjects

#### Summer semester:

Lightweight Design  
Rail Vehicle Engineering  
Road Traffic Law / European Competition Law  
Applied Multibody Systems  
Advanced Vehicle Dynamics  
DoE/Application  
Methods for Surface Treatment  
Two Wheeler Technologies

#### Winter semester:

Large Engines  
Energy Management and Storage Systems  
Commercial Vehicles  
Electric Drive and Propulsion Systems  
Rail Vehicle Dynamics  
Marketing and Product Management

*“After completing my degree, I was qualified to work in various vehicle-related fields. Theory and practice are very well combined at FH JOANNEUM thanks to the various projects, especially Formula Student. I would now like to further develop my knowledge on the master degree programme.”*

DI (FH) Christoph Haidinger, Graduate  
Research assistant at FH JOANNEUM, Automotive  
Engineering degree programme

### FACTS

- Diplomingenieurin / Diplomingenieur (DI)
- Full-time
- 4 semesters / 120 ECTS
- Language of instruction: English (80 %) / German (20 %)
- 39 places per year
- Head of Degree Programme:  
FH-Prof. DI Dr. Kurt Steiner
- FH JOANNEUM Graz

[www.fh-joanneum.at/mae](http://www.fh-joanneum.at/mae)

## CAREER PROSPECTS

The automotive and supply industry has an increasing demand for highly qualified engineers with comprehensive knowledge and expertise. We prepare the students to design sustainable, resource-efficient and customer-friendly new products and to generate innovation in order to meet the challenges of the mobile and multi-cultural world of automotive engineering.

Our graduates are in demand on an international level and tackle technological innovation as well as contributing their expertise to sustainable development in the automotive industry.

CURRICULUM: 120 ECTS (30 ECTS per semester)

1. Semester	2. Semester	3. Semester	4. Semester
Applied Engineering Mathematics 1 3 ECTS	Applied Engineering Mathematics 2 3 ECTS	FEM / CFD 3 ECTS	Master's Thesis 30 ECTS
Advanced Mechanics 4 ECTS	Continuum Mechanics 3 ECTS	Advanced Drive and Propulsion Technology 4 ECTS	
Control Systems 1 · Sensors & Actuators 3 ECTS	Control Systems 2 · Digital Control Engineering & Signal Processing 4 ECTS <span>FS</span>	Control Systems 3 · Supply and Storage Systems · Bus and On-board Diagnostics 2 ECTS	
Machine Dynamics · Acoustics 3 ECTS <span>FS</span>	Engineering Methods and Design 2 3 ECTS <span>FS</span>	Strategic Management 3 ECTS	
Methods of Product Development & Production 3 ECTS <span>FS</span>	Project Work 2 4 ECTS <span>FS</span>	Academic Writing and Speaking 2 ECTS	
Hydraulics and Pneumatics 2 ECTS <span>FS</span>	Quality Management 2 ECTS	Elective Subjects 2* 6 ECTS	
Engineering Methods and Design 1 4 ECTS <span>FS</span>	Leadership and Intercultural Business Practices 2 ECTS <span>FS</span>	Internship 10 ECTS	
Project Work 1 5 ECTS <span>FS</span>	Elective Subjects 1* 9 ECTS		
Human Resource Management 1 ECTS <span>FS</span>			
English for Scientific Studies 2 ECTS	<span>FS</span>		
<b>Theoretical Fundamentals</b>	Engineering Subjects	<b>Project · Master's Thesis</b>	Business, Law and Social Skills
Language English	Elective Subjects	Internship	

FS Formula Student

A relevant bachelor or diploma degree with at least 180 ECTS or a post-secondary degree is a requirement for admission to the programme.