

Master's Degree Programme AUTOMOTIVE ENGINEERING

The Master's degree programme focuses on sustainable mobility and innovative concepts in automotive engineering. As a future engineer you advance innovation and progress in the automotive industry through your engineering skills and management expertise.

What you will study:

Innovation. Automotive engineering.

You extend your knowledge of model development and simulation, engine development or process and product management. To be innovative in automotive engineering, you focus on designing sustainable, resource-efficient and user-friendly products.

Complete vehicle. Leadership.

You delve into the various phases of the vehicle development cycle – from design, development and testing to production, sales and quality assurance. You also learn to supervise organisational units and identify and implement development trends.


Project. Race car engineering.

The international Formula Student project is an integral part of the programme. This applied project gives you the opportunity to explore cutting-edge race car technology and, as part of a team, build a competitive racing car.

Elective subjects. Internship. Master's thesis.

In the second and third semesters you choose from a list of subjects to specialise in an area of particular interest to you. In addition you extend your in-depth knowledge during your internship and your Master's thesis. You can also spend the third semester at one of our partner universities abroad.


FACTS

 Diplomingenieurin / Diplomingenieur (DI)

 Full-time

 4 semesters / 120 ECTS

 FH JOANNEUM Graz

 Language of instruction: English

● 39 places per year

● Head of Degree Programme:
FH-Prof. DI Dr. Kurt Steiner

● No tuition fees for students from the EU, EEA and Switzerland, tuition fees for Students from third countries

● All information about deadlines, requirements, application and admission can be found online.

● www.fh-joanneum.at/mae

Did you know ...

... that you can gain valuable experience with our partners in industry and research? The internship in the third semester provides the ideal opportunity.



Career prospects

The automotive and supply industry is characterised by an increasing demand for highly qualified engineers with comprehensive knowledge and expertise. We prepare our students for the challenges of the mobile and multi-cultural world of automotive engineering. Our graduates are in demand on an international level, tackling technological innovation as well as contributing their expertise to sustainable development in the automotive industry. Graduates also have the option to embark on an academic career by enrolling in a doctoral programme.

CURRICULUM: 120 ECTS (30 ECTS per semester)

1 st semester	LV-Typ	SWS	ECTS
Applied Engineering Mathematics 1	ILV	2	4
Advanced Mechanics	ILV	3	4
Sensors & Actuators	ILV	2	3
Machine Dynamics / Acoustics	VO	2	4
Digital Control Engineering	ILV	2	3
Engineering Project 1	PT	3	6
Hydraulics and Pneumatics	VO	2	2
Engineering Project Management	VO	2	2
English for Scientific Studies	SE	2	2
		20	30

3 rd semester	LV-Typ	SWS	ECTS
FEM / CFD	ILV	2	3
Human Resource Management	VO	1	1
Advanced Vehicle Dynamics	ILV	2	3
Driver Assistance Systems	ILV	2	3
Bus and On-board Diagnostics	ILV	1	2
Internship	PR	1	10
Academic Writing and Speaking	SE	2	2
Elective Subjects			
Internal Combustion Engines	ILV	2	3
Energy Management and Storage Systems	ILV	2	3
Commercial Vehicles	VO	2	3
Electric Drive and Propulsion Systems	ILV	2	3
Rail Vehicle Dynamics	VO	2	3
Tire Modeling	VO	2	3
Methods of Product Development & Production	VO	2	3
		15	30

Organisation

Automotive Engineering is a full-time course. This means the classes are held at FH JOANNEUM over a 15 week period each semester, generally all day Monday to Friday. You receive a current timetable at the start of each semester.

“The Automotive Engineering programme allowed me to obtain practical training and a broad range of expertise and was excellent preparation for my career. As a graduate of this course, you are in demand across the world in the automotive industry.”

DI (FH) Pina Michaela Writzel, Graduate
Automatic gearbox testing, Audi AG

2 nd semester	LV-Typ	SWS	ECTS
Applied Engineering Mathematics 2	ILV	2	3
Continuum Mechanics	ILV	2	3
Advanced Drive and Propulsion Technology	ILV	3	4
Signal Processing	ILV	2	2
Engineering Project 2	PT	3	5
Supply and Storage systems	ILV	1	2
Leadership and Intercultural Business Practices	SE	2	2
Elective Subjects			
Lightweight Design	ILV	2	3
Rail Vehicle Engineering	ILV	2	3
Road Traffic Law / European Competition Law	VO	2	3
Applied Multibody Systems	ILV	2	3
Strategic Management	VO	2	3
DoE / Application	ILV	2	3
Race Car Data Analysis	ILV	2	3
2 Wheeler Technologies	ILV	2	3
Fuel Cell	ILV	2	3
		21	30

4 th semester	LV-Typ	SWS	ECTS
Master's Thesis and Master's Exam	MA	0,5	30
		0,5	30

ILV = Integrated course, PR = Internship, PT = Project, SE = Seminar, VO = Lecture, SWS = Hours per week, ECTS = European Credit Transfer and Accumulation System