

Mechanical Engineering Curriculum (full-time)

Valid from Autumn Semester 2019/2020 / 12.02.2021

Semester	Context Modules	Project Modules	Subject-Specific Modules						Mathematics and Natural Science Modules				
Semester 6	Elective Module Context 2	Bachelor Thesis: Mechanical Engineering DE/EN 12	Specialisation Module a2 4	Specialisation Module b2 4	Electrical Engineering DE 4	Elective Module 4							
Semester 5	Elective Module Context 2	Elective Module Context 2	Project Thesis: Mechanical Engineering DE/EN 6	Specialisation Module a1 4	Specialisation Module b1 4	Mechanical Dynamics DE/EN 4	Elective Module 4	Elective Module Cross-Curricula 4					
Semester 4	Business Administration DE 2	Project Module 4 DE/EN 4	Machine Elements 3 DE 2	Applied Heat Transfer DE 4	Measurement and Control Systems 2 DE/EN 4	Materials Engineering 2 DE/EN 4	Strength of Materials 2 DE 2	Finite Element Method DE/EN 4			Numerics DE 4		
Semester 3	Communication Competence 3 DE/EN 2	Project Module 3 DE 4	Virtual Product Development and Machine Elements 3 DE 4	Thermodynamics DE/EN 4	Measurement and Control Systems 1 DE/EN 2	Materials Engineering 1 DE 4	Strength of Materials 1 DE 2			Analysis 3 DE 4		Physics 3: Kinematics and Kinetics DE 4	
Semester 2	Communication Competence 2 DE/EN 2	Project Module 2 DE 4	Machine Elements 2 DE 2	Fluidynamics DE 4			Statics DE 4	Computer Science Tools DE 2	Analysis 2 DE 4	Algebra and Statistics 2 DE 4	Physics 2 DE 4		
Semester 1	Communication Competence 1 DE/EN 2	Project Module 1 DE 4	Machine Elements 1 DE 2			Materials and Chemistry DE 4	CAD for MT DE 2	Computer Science Programming 1 DE 4	Analysis 1 DE 4	Algebra and Statistics 1 DE 4	Physics 1 DE 4		

Module Name

Language of Instruction

Credits

Overview of Mechanical Engineering specialisations and elective modules

During your fourth year of study, you will choose two of the following eight specialisations:

Specialisation	Semester 5	Semester 6
Biomechanical Engineering	Biomechanical Engineering 1 DE	Biomechanical Engineering 2 DE
Computational Fluid Engineering	Computational Fluid Engineering 1 DE	Computational Fluid Engineering 2 DE
Computational Light Weight Design	Computational Light Weight Design 1 DE	Computational Light Weight Design 2 DE
Innovative Materials and Surfaces	Innovative Materials and Surfaces 1 DE	Innovative Materials and Surfaces 2 DE
Smart Products and Production	Smart Products and Production 1 DE/EN	Smart Products and Production 2 DE/EN
Systems and Automation Technology	Systems and Automation Technology 1 EN	Systems and Automation Technology 2 EN
Thermal Energy Technology	Refrigeration and Heat Pumps DE	Wind and Water Power and Thermal Solar Energy DE
Process Engineering	Process Engineering 1 DE	Process Engineering 2 DE

During your fourth year of study, you will also choose two of the following elective modules:

Semester	Module 1	Module 2	Module 3	Module 4	Module 5	Module 6	Module 7	Module 8	Module 9
Semester 6	Advanced Digital Engineering DE	Advanced Digital Production DE	Sensors DE	Robotics and Mechatronics 2 DE	Biomedical Engineering 2 DE	Introduction to Rotary Wing Aircraft EN	Materials Selection DE		
Semester 5	Additive Manufacturing (3D printing) EN	Industrial Design: Basic Principles EN	Modelling and Simulation DE	Robotics and Mechatronics 1 DE	Biomedical Engineering 1 DE	Numerical and Experimental Aerodynamics EN	Rail Vehicle Technology DE	Conventional Power Plant Technology DE	