

**Curriculum Mechanical Engineering (B.Eng)**  
effective from study beginning in winter semester 2019/20

1. Semester	2. Semester	3. Semester	4. Semester	5. Semester	6. Semester	7. Semester
Mathematics for Engineers 1 (6/6)	Mathematics for Engineers 2 (6/6)	Thermodynamics 1 (4/5)	Thermodynamics 2 (4/5)	Industrial Placement (0/22)	Control Engineering (3/4)	Specialisation Module 3 (4/5)
					Laboratory Exercises: Control Engineering (1/1)	
Engineering Mechanics 1 (4/5)	Engineering Mechanics 2 (4/5)	Engineering Mechanics 3 (4/5)	Applied Dynamics (4/5)		Laboratory Exercises: Plants and Engines (4/5)	Specialisation Module 4 (4/5)
Fundamentals of Electrical Engineering and Electronics 1 (4/5)	Fundamentals of Programming (4/5)	Computer Science for Engineers (4/5)	Measurement Techniques (2/2)		Fundamentals of Electric Machines and Drives (4/5)	Specialisation Module 5 (4/5)
			Laboratory Exercises: Measurement Techniques (2/3)			
Engineering Design 1 (4/5)	Design of Machine Elements 1 (4/5)	Design of Machine Elements 2 (4/5)	Engineering Design 4 (4/6)		Specialisation Module 1 (4/5)	Bachelor Thesis (0/12)
Material Engineering 1 (2/2)	Engineering Design 2 (2/2)	Engineering Design 3 (2/4)	Business Administration and Accounting (4/4)	Project Management and Quality Assurance (4/4)	Specialisation Module 2 (4/5)	
Manufacturing Methods (4/4)	Material Engineering 2 (4/4)	Laboratory Exercises: Material and Manufacturing Methods (3/3)	Presentation (2/2)	General Scientific Elective Module 2 (2/2)	Student Project (4/6)	
Physics (3/3)	Laboratory Exercises: Physics (2/3)	Fluid Mechanics (4/5)	General Scientific Elective Module 1 (Foreign language) (2/3)			
						General Scientific Elective Module 3 (2/2)
27 SWS 30 Credits	26 SWS 30 Credits	25 SWS 32 Credits	24 SWS 30 Credits	6 SWS 28 Credits	24 SWS 31 Credits	14 SWS 29 Credits

Explanation: (3/4) means 3 SWS und 4 Credits

Sum Study Programme: 210 Credits / 146 SWS

Fields of specialisation					
Specialisation Modules	Automotive Systems	Energy and Process Engineering	Manufacturing Technology	Mechatronic Systems	Product Development
Mandatory Module 1	Vehicle Technology	Fundamentals of Energy and Process Technologies	Laser Assisted and Additive Manufacturing	Robotics	Motion Design and Mechanisms
Mandatory Module 2	Automotive electronics	Renewable Energies	Numerically Controlled Machines	Microcontroller Based Process Control incl. Laboratory Exercises	Computer Aided Engineering
Mandatory Module 3	Internal Combustion Engines	Turbomachinery	Manufacturing of Polymer Products	Sensor Technology	Fundamentals of FEM
Mandatory Module 4			Welding Technology		Methods for Product Design and Development
Alternative Module 1	Blunt Body Aerodynamics	Power Plant Technology	Material Flow Systems	Optical Systems	Transmission Elements
Alternative Module 2	Fundamentals of FEM	Introduction to CFD	Surface Engineering	Simulation and Identification	Lightweight Design
Alternative Module 3	Lightweight Design	Refrigeration and Air Conditioning		Cross-linked Digital Systems	
Alternative Module 4	Surface Engineering	Process Simulation			
Alternative Module 5	Simulation and Test Methods				

There is no guarantee that all specialisations will be offered. For each specialisation, all compulsory modules and additional elective modules totalling 25 credits must be completed. Compulsory modules are offered once a year if the number of students is less than 15. Alternative modules are generally only offered once a year.