Course of Study Mechatronics (Study Cohort w22)

Legend

Core Qualification Compulsory	Specialisation Compulsory	Focus Compulsory	Thesis Compulsory
Core Qualification Elective Compulsory	Specialisation Elective Compulsory	Focus Elective Compulsory	Interdisciplinary complement

Sample course plan B Bachelor Mechatronics (MECBS) Dual study program

1	**Electrical Engineering I: Direct Current Networks and Electromagnetic Fields** Electrical Engineering I: Direct Current Networks and Electromagnetic Fields VL 3 Electrical Engineering I: Direct Current Networks and Electromagnetic Fields GÜ 2	**Electrical Engineering II: Alternating Current Networks and Basic Devices** Electrical Engineering II: Alternating Current Networks and Basic Devices VL 3 Electrical Engineering II: Alternating Current Networks and Basic Devices GÜ 2	**Mechanical Engineering: Design (part 1)** Embodiment Design and 3D-CAD Introduction and Practical Training VL 2 Mechanical Design Project I PBL 3	**Mechanical Engineering: Design (part 2)** Team Project Design Methodology PBL 2 Mechanical Design Project II PBL 3	**Technical Thermodynamics II** Technical Thermodynamics II VL 2 Technical Thermodynamics II HÜ 1 Technical Thermodynamics II GÜ 1	**Electrical Machines and Actuators** Electrical Machines and Actuators VL 3 Electrical Machines and Actuators HÜ 2
2						
3						
4			**Electrical Engineering III: Circuit Theory and Transients** Circuit Theory VL 3 Circuit Theory GÜ 2	**Technical Thermodynamics I** Technical Thermodynamics I VL 2 Technical Thermodynamics I HÜ 1 Technical Thermodynamics I GÜ 1		
5						
6						
7	**Mathematics I** Mathematics I VL 4 Mathematics I HÜ 2 Mathematics I GÜ 2	**Fundamentals of Mechanical Engineering Design** Fundamentals of Mechanical Engineering Design VL 2 Fundamentals of Mechanical Engineering Design HÜ 2			**Foundations of Management** Introduction to Management VL 3 Management Tutorial GÜ 2	**Semiconductor Circuit Design** Semiconductor Circuit Design VL 3 Semiconductor Circuit Design GÜ 1
8						
9						
10			**Mathematics III** Analysis III VL 2 Analysis III GÜ 1 Analysis III HÜ 1 Differential Equations 1 VL 2 Differential Equations 1 GÜ 1 Differential Equations 1 HÜ 1	**Signals and Systems** Signals and Systems VL 3 Signals and Systems GÜ 2		
11						
12						
13		**Mathematics II** Mathematics II VL 4 Mathematics II HÜ 2 Mathematics II GÜ 2			**Introduction to Control Systems** Introduction to Control Systems VL 2 Introduction to Control Systems GÜ 2	**Bachelor thesis (dual study program)**
14						
15	**Fundamentals of Materials Science (part 1)** Fundamentals of Materials Science I VL 2 Physical and Chemical Basics of Materials Science VL 2			**Production Engineering** Production Engineering I VL 2 Production Engineering II VL 2 Production Engineering II HÜ 1 Production Engineering I HÜ 1		
16						
17						
18			**Practical module 3 (dual study program, Bachelor's degree)** Practical term 3 0			
19	**Computer Science for Engineers - Introduction and Overview** Computer Science for Engineers - Introduction and Overview VL 3 Computer Science for Engineers - Introduction and Overview GÜ 2				**Measurement Technology for Mechanical Engineers** Measurement Technology for Mechanical Engineering VL 2 Measurement Technology for Mechanical Engineering PR 2 Practical Course: Measurement and Control Systems PR 2	
20						
21		**Computer Science for Engineers - Programming Concepts, Data Handling & Communication** Computer Science for Engineers - Programming Concepts, Data Handling & Communication VL 3 Computer Science for Engineers - Programming Concepts, Data Handling & Communication GÜ 2				
22						
23						
24				**Mathematics IV** Complex Functions VL 2 Complex Functions GÜ 1 Complex Functions HÜ 1 Differential Equations 2 VL 2 Differential Equations 2 GÜ 1 Differential Equations 2 HÜ 1		
25	**Practical module 1 (dual study program, Bachelor's degree)** Practical term 1 0				**Simulation and Design of Mechatronic Systems** Simulation and Design of Mechatronic Systems VL 2 Simulation and Design of Mechatronic Systems HÜ 1 Simulation and Design of Mechatronic Systems PR 1	
26						
27		**Practical module 2 (dual study program, Bachelor's degree)** Practical term 2 0				
28						
29				**Practical module 4 (dual study program, Bachelor's degree)** Practical term 4 0		
30						
31	**Engineering Mechanics I (Stereostatics)** Engineering Mechanics I VL 2 Engineering Mechanics I GÜ 2 Engineering Mechanics I HÜ 1		**Engineering Mechanics III (Dynamics)** Engineering Mechanics III VL 3 Engineering Mechanics III GÜ 2 Engineering Mechanics III HÜ 1		**Practical module 5 (dual study program, Bachelor's degree)** Practical term 5 0	
32						
33						
34		**Engineering Mechanics II (Elastostatics)** Engineering Mechanics II VL 2 Engineering Mechanics II GÜ 2 Engineering Mechanics II HÜ 2				
35						
36				**Computational Mechanics** Computational Multibody Dynamics IV 2 Computational Mechanics GÜ 2 Computational Stuctural Mechanics IV 2		
37						
38						
39		**Fundamentals of Materials Science (part 2)** Fundamentals of Materials Science II VL 2				
40						

Linking theory and practice (dual study program, Bachelor's degree) (from catalogue) - 6LP

The choice of courses from the catalogue is flexible (depends on the semestral work load), provided the necessary number of required credits is reached.