Course of Study Mechatronics (Study Cohort w21)

Sample course plan C Bachelor Mechatronics (MECBS)

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

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