Course of Study General Engineering Science (German program, 7 semester) (Study Cohort w22)

Sample course plan A Bachelor General Engineering Science (German program, 7 semester) (AIWBS(7)) Dual study program

Specialisation Mechanical Engineering, Focus Mechatronics

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

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.