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 Advanced Materials

Legend:

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

LP	Semester 1	FormHrs/wk	Semester 2	FormHrs/wk	Semester 3	FormHrs/wk	Semester 4	FormHrs/wk	Semester 5	FormHrs/wk	Semester 6	FormHrs/wk	Semester 7	FormHrs/wk
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 Current Networks and Basic Devices	VL 3	Technical Thermodynamics II	VL 2	Signals and Systems	VL 3	Introduction to Control Systems	VL 2	Introduction to Management	VL 3	Advanced Internship AIW/ ES: Preparation	SE 1
3	Chemistry I+II	HÜ 2	Electrical Engineering II: Alternating Current Networks and Basic Devices	GÜ 2	Technical Thermodynamics II	HÜ 1	Signals and Systems	GÜ 2	Introduction to Control Systems	GÜ 2	Management Tutorial	GÜ 2	Advanced Internship AIW/ ES: Internship-accompanying Seminar	SE 1
4					Technical Thermodynamics II	GÜ 1								
5														
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)**		**Modeling, Simulation and Optimization (EN)**			
8	Electrical Engineering I: Direct Current Networks and Electromagnetic Fields	VL 3	Fundamentals of Mechanical Engineering Design	VL 2	Analysis III	VL 2	Practical term 4	0	Practical term 5	0	Modeling, Simulation and Optimization	IV 4		
9					Analysis III	GÜ 1								
10	Electrical Engineering I: Direct Current Networks and Electromagnetic Fields	GÜ 2	Fundamentals of Mechanical Engineering Design	HÜ 2	Analysis III	HÜ 1								
11					Differential Equations 1	VL 2								
12					Differential Equations 1	GÜ 1								
13	**Mathematics I**		**Technical Thermodynamics I**		Differential Equations 1	HÜ 1	**Advanced Materials for Sustainability**		**Material Science Laboratory**		**Materials Engineering: Materials Selection, Processing and Modelling**			
14	Mathematics I	VL 4	Technical Thermodynamics I	VL 2			Advanced Materials Characterization	VL 2	Companion Lecture for Materials Science Laboratory	VL 2	Materials Selection and Processing	VL 3		
15	Mathematics I	HÜ 2	Technical Thermodynamics I	HÜ 1	**Practical module 3 (dual study program, Bachelor's degree)**		Advanced Materials for Sustainability	VL 2			Materials and Process Modeling	VL 3		
16	Mathematics I	GÜ 2	Technical Thermodynamics I	GÜ 1	Practical term 3	0	Advanced Materials for Sustainability	HÜ 2	Material Science Laboratory	PR 4				
17														
18														
19			**Mathematics II**				**Computational Mechanics (EN)**		**Fluid Mechanics (EN)**		**Machine Learning for Physical Systems**		**Bachelor thesis (dual study program)**	
20			Mathematics II	VL 4			Computational Mechanics	IV 4	Fluid Mechanics	VL 3	Machine Learning for Physical Systems	VL 2		
21	**Computer Science for Engineers - Introduction and Overview**		Mathematics II	HÜ 2	**Engineering Mechanics III (Dynamics)**		Computational Mechanics	GÜ 2	Fluid Mechanics	HÜ 2	Machine Learning for Physical Systems	PBL 2		
22	Computer Science for Engineers - Introduction and Overview	VL 3	Mathematics II	GÜ 2	Engineering Mechanics III	VL 3								
23					Engineering Mechanics III	GÜ 2								
24	Computer Science for Engineers - Introduction and Overview	GÜ 2			Engineering Mechanics III	HÜ 1								
25							**Mathematics IV (EN)**		**Quantum Mechanics for Materials Science**					
26							Differential Equations 2	VL 2	Atomic-Scale Fundamentals of Materials Science	VL 2				
27	**Practical module 1 (dual study program, Bachelor's degree)**		**Practical module 2 (dual study program, Bachelor's degree)**		**Numerical Mathematics I**		Differential Equations 2	HÜ 1	Atomic-Scale Fundamentals of Materials Science	HÜ 2				
28	Practical term 1	0	Practical term 2	0	Numerical Mathematics I	VL 2	Differential Equations 2	GÜ 1						
29					Numerical Mathematics I	GÜ 2	Complex Functions	VL 2						
30							Complex Functions	HÜ 1						
31							Complex Functions	GÜ 1						
32							**Fundamentals of Materials Science (part 2)**		**Measurement Technology for Mechanical Engineers**					
33	**Engineering Mechanics I (Stereostatics)**		**Engineering Mechanics II (Elastostatics)**		**Fundamentals of Materials Science (part 1)**		Fundamentals of Materials Science II	VL 2	Measurement Technology for Mechanical Engineering	VL 2				
34	Engineering Mechanics I	VL 2	Engineering Mechanics II	VL 2	Fundamentals of Materials Science I	VL 2			Measurement Technology for Mechanical Engineering	HÜ 1				
35	Engineering Mechanics I	GÜ 2	Engineering Mechanics II	GÜ 2	Physical and Chemical Basics of Materials Science	VL 2			Practical Course: Measurement and Control Systems	PR 2				
36	Engineering Mechanics I	HÜ 1	Engineering Mechanics II	HÜ 2										
37														
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.