Course of Study Engineering Science (Study Cohort w20)

Sample course plan F Bachelor Engineering Science (ESBS)

Specialisation Mechatronics

#	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 (GES)**		**Mathematical Analysis**		**Mechanical Engineering: Design (part 1)**		**Mechanical Engineering: Design (part 2)**		**Numerical Mathematics I**		**Fundamentals of Production and Quality Management**		**Advanced Internship AIW/ ES**	
2	Chemistry I+II	VL 4	Mathematical Analysis	VL 4	Embodiment Design and 3D-CAD	VL 2	Team Project Design Methodology	PBL 2	Numerical Mathematics I	VL 2			Advanced Internship AIW/ ES:	SE 1
3	Chemistry I+II	HÜ 2	Mathematical Analysis	HÜ 2	Mechanical Design Project I	PBL 3	Mechanical Design Project II	PBL 3	Numerical Mathematics I	GÜ 2	Production Process Organization	VL 2	Preparation	
4			Mathematical Analysis	GÜ 2							Quality Management	VL 2	Advanced Intenship AIW/ ES: Internship-	SE 1
5					**Engineering Mechanics III (EN)**		**Fundamentals of Materials Science (EN) (part 2)**						accompanying Seminar	
6					Mechanics III	HÜ 1								
					Mechanics III	GÜ 2	Fundamentals of Materials Science II	VL 2						
					Mechanics III	VL 3								
7	**Linear Algebra**						**Electromagnetics for Engineers I: Time-Independent Fields**		**Fluid Mechanics (EN)**		**Modeling, Simulation and Optimization (EN)**			
8	Linear Algebra	VL 4					Electromagnetics for Engineers I: Time-Independent Fields	VL 3	Fluid Mechanics	VL 3	Modeling, Simulation and Optimization	IV 4		
9	Linear Algebra	HÜ 2	**Electrical Engineering II (GES)**				Electromagnetics for Engineers I: Time-Independent Fields	GÜ 2	Fluid Mechanics	HÜ 2				
10	Linear Algebra	GÜ 2	Electrical Engineering II	VL 3	**Fundamentals of Materials Science (EN) (part 1)**									
11			Electrical Engineering II	GÜ 2										
12					Fundamentals of Materials Science I	VL 2								
13					Physical and Chemical Basics of Materials Science	VL 2	**Computational Mechanics (EN)**		**Introduction to Control Systems (EN)**		**Foundations of Management (EN)**			
14							Computational Mechanics	IV 4	Introduction to Control Systems	VL 2	*** Introduction to Management	VL 3		
15	**Electrical Engineering I (GES)**		**Engineering Mechanics II (GES)**		**Computer Science for Engineers (EN)**		Computational Mechanics	GÜ 2	Introduction to Control Systems	GÜ 2	*** Introduction to Management	GÜ 3		
16	Electrical Engineering I	VL 3	Mechanics II	VL 2	**** Computer Science for Engineers	VL 0								
17	Electrical Engineering I	GÜ 2	Mechanics II	HÜ 2	**** Computer Science for Engineers	GÜ 3								
18														
19							**Signals and Systems (EN)**		**Measurement Technology for Mechanical Engineers**		**Semiconductor Circuit Design**		**Bachelor Thesis**	
20							Signals and Systems	GÜ 2	Measurement Technology for Mechanical	VL 2	Semiconductor Circuit Design	VL 3		
21	**Engineering Mechanics I (GES)**		**Fundamentals of Mechanical Engineering Design (GES)**				Signals and Systems	VL 3	Engineering		Semiconductor Circuit Design	GÜ 1		
22	Mechanics I	VL 2			**Mathematics III (EN)**				Measurement Technology for Mechanical	HÜ 1				
23	Mechanics I	HÜ 3	Fundamentals of Mechanical Engineering	VL 2	Analysis III	VL 2			Engineering					
24			Fundamentals of Mechanical Engineering	GÜ 2	Analysis III	HÜ 1			Practical Course: Measurement and	PR 2				
25					Analysis III	GÜ 1			Control Systems					
26					Differential Equations 1	VL 2					**Mathematics IV (EN)**			
27	**Physics for Engineers (GES)**		**Technical Thermodynamics I (GES)**		Differential Equations 1	HÜ 1			**Functional Programming**		Differential Equations 2	VL 2		
28	Physics for Engineers	VL 2	*** Technical Thermodynamics I	IV 3	Differential Equations 1	GÜ 1			Functional Programming	VL 2	Differential Equations 2	HÜ 1		
29	Physics for Engineers	GÜ 1	*** Technical Thermodynamics I	GÜ 1					Functional Programming	HÜ 2	Differential Equations 2	GÜ 1		
30									Functional Programming	GÜ 2	Complex Functions	VL 2		
31	**GES 101**										Complex Functions	HÜ 1		
32	GES 101	SE 2									Complex Functions	GÜ 1		

Non-technical Courses for Bachelors (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.