

# Course of Study Mechanical Engineering (Study Cohort w23)

Sample course plan C Bachelor Mechanical Engineering (MBBS) Dual study program

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

## Specialisation Materials in Engineering Sciences

1	<b>Mathematics I</b>		<b>Fundamentals of Mechanical Engineering Design</b>	<b>Advanced Mechanical Engineering Design (part 1)</b>	<b>Advanced Mechanical Engineering Design (part 2)</b>	<b>Advanced Mechanical Design Project</b>	<b>Foundations of Management</b>
2	Mathematics I VL 4		Fundamentals of Mechanical Engineering Design VL 2	Advanced Mechanical Engineering Design I VL 2	Advanced Mechanical Engineering Design II VL 2	Advanced Mechanical Design Project PBL 4	Introduction to Management VL 3
3	Mathematics I HÜ 2		Fundamentals of Mechanical Engineering Design HÜ 2	Advanced Mechanical Engineering Design I HÜ 2	Advanced Mechanical Engineering Design II HÜ 2		Management Tutorial GÜ 2
4	Mathematics I GÜ 2						
5				<b>Mechanical Engineering: Design (part 1)</b>	<b>Mechanical Engineering: Design (part 2)</b>		
6				Embodiment Design and 3D-CAD Introduction and Practical Training VL 2	Team Project Design Methodology PBL 2		
7				Mechanical Design Project I PBL 3	Mechanical Design Project II PBL 3		
8			<b>Technical Thermodynamics I</b>	<b>Basics of Electrical Engineering</b>	<b>Fluid Dynamics</b>	<b>Introduction to Control Systems</b>	<b>Enhanced Fundamentals of Materials Science</b>
9	<b>Fundamentals of Materials Science</b>		Technical Thermodynamics I VL 2	Basics of Electrical Engineering VL 3	Fluid Mechanics VL 3	Introduction to Control Systems VL 2	Materials for Energy Storage and Conversion VL 2
10	Fundamentals of Materials Science II VL 2		Technical Thermodynamics I HÜ 1	Basics of Electrical Engineering GÜ 2	Fluid Mechanics HÜ 2	Introduction to Control Systems GÜ 2	Advanced Ceramics and Polymers VL 2
11	Fundamentals of Materials Science I VL 2		Technical Thermodynamics I GÜ 1				Advanced Ceramics and Polymers HÜ 1
12	Physical and Chemical Basics of Materials Science VL 2						
13			<b>Production Engineering</b>	<b>Technical Thermodynamics II</b>	<b>Practical module 4 (dual study program, Bachelor's degree)</b>	<b>Measurement Technology for Mechanical Engineers</b>	<b>Materials Engineering: Materials Selection, Processing and Modelling</b>
14			Production Engineering I VL 2	Technical Thermodynamics II VL 2	Practical term 4 0	Measurement Technology for Mechanical Engineering VL 2	Materials Selection and Processing VL 3
15	<b>Team Project MB</b>		Production Engineering II VL 2	Technical Thermodynamics II HÜ 1		Measurement Technology for Mechanical Engineering PR 2	Materials and Process Modeling VL 3
16	Team Project MB PBL 6		Production Engineering II HÜ 1	Technical Thermodynamics II GÜ 1		Practical Course: Measurement and Control Systems PR 2	
17			Production Engineering I HÜ 1				
18							
19			<b>Mathematics II</b>	<b>Mathematics III</b>	<b>Computational Mechanics</b>	<b>Practical module 5 (dual study program, Bachelor's degree)</b>	<b>Bachelor thesis (dual study program)</b>
20			Mathematics II VL 4	Analysis III VL 2	Computational Multibody Dynamics IV 2	Practical term 5 0	
21	<b>Computer Science for Engineers - Introduction and Overview</b>		Mathematics II HÜ 2	Analysis III GÜ 1	Computational Mechanics GÜ 2		
22	Computer Science for Engineers - Introduction and Overview VL 3		Mathematics II GÜ 2	Analysis III HÜ 1	Computational Structural Mechanics IV 2		
23	Computer Science for Engineers - Introduction and Overview GÜ 2			Differential Equations 1 VL 2			
24	Computer Science for Engineers - Introduction and Overview HÜ 1			Differential Equations 1 GÜ 1			
25				Differential Equations 1 HÜ 1			
26					<b>Advanced Materials for Sustainability</b>	<b>Materials Science Laboratory</b>	
27	<b>Practical module 1 (dual study program, Bachelor's degree)</b>		<b>Practical module 2 (dual study program, Bachelor's degree)</b>	<b>Practical module 3 (dual study program, Bachelor's degree)</b>	Advanced Materials Characterization VL 2	Companion Lecture for Materials Science Laboratory VL 2	
28	Practical term 1 0		Practical term 2 0	Practical term 3 0	Advanced Materials for Sustainability VL 2	Material Science Laboratory PR 4	
29					Advanced Materials for Sustainability HÜ 2		
30							
31							
32							
33	<b>Engineering Mechanics I (Stereostatics)</b>		<b>Engineering Mechanics II (Elastostatics)</b>	<b>Engineering Mechanics III (Dynamics)</b>			
34	Engineering Mechanics I VL 2		Engineering Mechanics II VL 2	Engineering Mechanics III VL 3			
35	Engineering Mechanics I GÜ 2		Engineering Mechanics II GÜ 2	Engineering Mechanics III GÜ 2			
36	Engineering Mechanics I HÜ 1		Engineering Mechanics II HÜ 2	Engineering Mechanics III HÜ 1			
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.

