Course of Study Theoretical Mechanical Engineering (Study Cohort w22)

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

Sample course plan A Master Theoretical Mechanical Engineering (TMBMS) Dual study program
Specialisation Product Development and Production

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1	**Finite Elements Methods**	**Numerical Methods for Ordinary Differential Equations**	**Research Project Theoretical Mechanical Engineering**	**Master thesis (dual study program)**
2	Finite Element Methods VL 2	Numerical Treatment of Ordinary Differential Equations VL 2		
3	Finite Element Methods HÜ 2	Numerical Treatment of Ordinary Differential Equations GÜ 2		
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7	**Control Systems Theory and Design**	**Applied Dynamics: Numerical and experimental methods**		
8	Control Systems Theory and Design VL 2	Applied Dynamics VL 4		
9	Control Systems Theory and Design GÜ 2	Lab Applied Dynamics PR 2		
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13	**Practical module 1 (dual study program, Master's degree)**	**Practical module 2 (dual study program, Master's degree)**	**Practical module 3 (dual study program, Master's degree)**	
14	Practical term 1 0	Practical term 2 0	Practical term 3 0	
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23	**Modelling and Optimization in Dynamics**	**Computational Fluid Dynamics II**	**Fluidics**	
24	Flexible Multibody Systems VL 2	Computational Fluid Dynamics II VL 2	Fluidics VL 2	
25	Optimization of dynamical systems VL 2	Computational Fluid Dynamics II HÜ 2	Fluidics HÜ 1	
26			Fluidics PBL 1	
27				
28				
29	**Control Lab C**	**Linear and Nonlinear System Identifikation**		
30	Control Lab VII PR 1	Linear and Nonlinear System Identification VL 2		
31	Control Lab VIII PR 1 Control Lab IX PR 1			
32	**Methods of Integrated Product Development**	**Design optimization and probabilistic approaches in structural analysis**		
33	Integrated Product Development II VL 3	Design Optimization and Probabilistic Approaches in Structural Analysis VL 2		
34	Integrated Product Development II PBL 2	Design Optimization and Probabilistic Approaches in Structural Analysis HÜ 2		
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Business & Management (from catalogue) - 6LP

Linking theory and practice (dual study program, Master'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.