

# Course of Study Theoretical Mechanical Engineering (Study Cohort w20)

Sample course plan A Master Theoretical Mechanical Engineering (TMBMS)

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

Specialisation Materials Science			
1	<b>Finite Elements Methods</b>		<b>Numerical Treatment of Ordinary Differential Equations</b>
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
4			
5			
6			
7	<b>Control Systems Theory and Design</b>		<b>Applied Dynamics: Numerical and experimental methods</b>
8	Control Systems Theory and Design VL 2		Applied Dynamics VL 2
9	Control Systems Theory and Design GÜ 2		Lab Applied Dynamics PR 3
10			
11			
12			
13	<b>Modelling and Optimization in Dynamics</b>		<b>Computational Fluid Dynamics II</b>
14	Flexible Multibody Systems VL 2		Computational Fluid Dynamics II VL 2
15	Optimization of dynamical systems VL 2		Computational Fluid Dynamics II HÜ 2
16			<b>Materials Physics and Atomistic Materials Modeling</b>
17			Materials Physics VL 2
18			Quantum Mechanics and Atomistic Materials Modeling VL 2
19	<b>Control Lab C</b>		<b>Linear and Nonlinear System Identification</b>
20	Control Lab VII PR 1		Linear and Nonlinear System Identification VL 2
21	Control Lab VIII PR 1		
22	Control Lab IX PR 1		<b>Advanced Functional Materials</b>
23	<b>Polymers</b>		Advanced Functional Materials SE 2
24	Structure and Properties of Polymers VL 2		
25	Processing and design with polymers VL 2		
26			
27			
28			
29			
30			
Business & Management (from catalogue) - 6LP			
Non-technical Courses for Master (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.

