

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

Sample course plan A Master Theoretical Mechanical Engineering (TMBMS)

Specialisation Simulation Technology			Semester 2			Semester 3			Semester 4		
		Form Hrs/wk		Form Hrs/wk		Form Hrs/wk		Form Hrs/wk		Form Hrs/wk	
1	<b>Finite Elements Methods</b>		<b>Numerical Treatment of Ordinary Differential Equations</b>		<b>Research Project Theoretical Mechanical Engineering</b>		<b>Master Thesis</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>		<b>Innovative CFD Approaches</b>						
14	Flexible Multibody Systems	VL 2	Computational Fluid Dynamics II	VL 2	Application of Innovative CFD Methods in Research and Development	VL 2					
15	Optimization of dynamical systems	VL 2	Computational Fluid Dynamics II	HÜ 2	Application of Innovative CFD Methods in Research and Development	GÜ 2					
16											
17											
18											
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	<b>Material Modeling</b>		<b>Design optimization and probabilistic approaches in structural analysis</b>								
23	Material Modeling	VL 2	Design Optimization and Probabilistic Approaches in Structural Analysis	VL 2							
24	Material Modeling	GÜ 2	Design Optimization and Probabilistic Approaches in Structural Analysis	HÜ 2							
25											
26											
27											
28			<b>Numerical Algorithms in Structural Mechanics</b>								
29			Numerical Algorithms in Structural Mechanics	VL 2							
30			Numerical Algorithms in Structural Mechanics	GÜ 2							
31											
32											
33											
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.

