

# Course of Study Theoretical Mechanical Engineering (Study Cohort w21)

Sample course plan A Master Theoretical Mechanical Engineering (TMBMS)

		Semester 2		Semester 3		Semester 4	
Specialisation Simulation Technology		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		
3	Finite Element Methods	HÜ	2	Numerical Treatment of Ordinary Differential Equations	GÜ		
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		
9	Control Systems Theory and Design	GÜ	2	Lab Applied Dynamics	PR		
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	Application of Innovative CFD Methods in Research and Development	VL
15	Optimization of dynamical systems	VL	2	Computational Fluid Dynamics II	HÜ	Application of Innovative CFD Methods in Research and Development	GÜ
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		
21	Control Lab VIII	PR	1				
22	<b>Materials 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		
24	Material Modeling	GÜ	2	Design Optimization and Probabilistic Approaches in Structural Analysis	HÜ		
25							
26							
27							
28				<b>Numerical Algorithms in Structural Mechanics</b>			
29				Numerical Algorithms in Structural Mechanics	VL		
30				Numerical Algorithms in Structural Mechanics	GÜ		
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.

