

# Course of Study Theoretical Mechanical Engineering (Study Cohort w18)

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

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

LP	Semester 1	Form Hrs/wk	Semester 2	Form Hrs/wk	Semester 3	Form Hrs/wk	Semester 4	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						
3	Finite Element Methods	HÜ 2	Numerical Treatment of Ordinary Differential Equations	VL 2				
4			Numerical Treatment of Ordinary Differential Equations	UE 2				
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	UE 2	Lab Applied Dynamics	PR 3				
10								
11								
12								
13	<b>Modelling and Optimization in Dynamics</b>		<b>Computational Fluid Dynamics II</b>		<b>Robotics</b>			
14	Flexible Multibody Systems	VL 2	Computational Fluid Dynamics II	VL 2	Robotics: Modelling and Control	VL 3		
15	Optimization of dynamical systems	VL 2	Computational Fluid Dynamics II	HÜ 2	Robotics: Modelling and Control	UE 2		
16								
17								
18								
19	<b>Control Lab C</b>		<b>Linear and Nonlinear System Identifikation</b>		<b>Factory Planning &amp; Production Logistics</b>			
20	Control Lab VII	PR 1	Linear and Nonlinear System Identifikation	VL 2	Factory Planning	VL 3		
21	Control Lab VIII	PR 1			Production Logistics	VL 2		
22								
23	<b>Methods of Integrated Product Development</b>		<b>Design optimization and probabilistic approaches in structural analysis</b>					
24	Integrated Product Development II	VL 3	Design Optimization and Probabilistic Approaches in Structural Analysis	VL 2				
25	Integrated Product Development II	PBL 2	Design Optimization and Probabilistic Approaches in Structural Analysis	HÜ 2				
26								
27								
28								
29								
30								
Business & Management (from catalogue) - 6LP								
Nontechnical Elective Complementary 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.

