Course of Study Theoretical Mechanical Engineering (Study Cohort w19)

Sample course plan A Master Theoretical Mechanical Engineering (TMBMS)
Specialisation Maritime Technology

Legend			
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	**Finite Elements Methods**			**Numerical Treatment of Ordinary Differential Equations**			**Research Project Theoretical Mechanical Engineering**			**Master Thesis**		
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	**Control Systems Theory and Design**			**Applied Dynamics: Numerical and experimental methods**								
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	**Modelling and Optimization in Dynamics**			**Computational Fluid Dynamics II**			**Ship Vibration**					
14	Flexible Multibody Systems	VL	2	Computational Fluid Dynamics II	VL	2	Ship Vibration	VL	2			
15	Optimization of dynamical systems	VL	2	Computational Fluid Dynamics II	HÜ	2	Ship Vibration	GÜ	2			
16												
17												
18												
19	**Control Lab C**			**Linear and Nonlinear System Identifikation**			**Arctic Technology**					
20	Control Lab VII	PR	1	Linear and Nonlinear System Identification	VL	2	Ship structural design for arctic conditions	PBL	2			
21	Control Lab VIII	PR	1				Ice Engineering	VL	2			
22	Control Lab IX	PR	1				Ice Engineering	GÜ	1			
23	**Fatigue Strength of Ships and Offshore Structures**			**Design optimization and probabilistic approaches in structural analysis**								
24	Fatigue Strength of Ships and Offshore Structures	VL	2	Design Optimization and Probabilistic Approaches in Structural Analysis	VL	2						
25	Fatigue Strength of Ships and Offshore Structures	GÜ	2	Design Optimization and Probabilistic Approaches in Structural Analysis	HÜ	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.