Course of Study Materials Science and Engineering (Study Cohort w25)

Legend

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

Sample course plan A Master Materials Science and Engineering (MSEMS)

Specialisation Modeling

LP											
1	**Applied Computational Methods for Material Science**			**Advanced Laboratory Materials Sciences**			**Advanced Functional Materials**			**Master Thesis**
2	Applied Computational Methods for Material Science	PBL	4	Advanced Laboratory Materials Sciences	PR	6	Advanced Functional Materials	SE	2	
3										
4										
5										
6										
7	**Materials Physics and Atomistic Materials Modeling**			**Mechanical Properties**			**Study work on Modern Issues in the Materials Sciences**			
8	Materials Physics	VL	2	Mechanical Behaviour of Brittle Materials	VL	2				
9	Quantum Mechanics and Atomistic Materials Modeling	VL	2	Dislocation Theory of Plasticity	VL	2				
10	Exercises in Materials Physics and Modeling	GÜ	2	Exercise on mechanical properties	HÜ	2				
11										
12										
13	**Phenomena and Methods in Materials Science**			**Multiphase Materials**						
14	Phase equilibria and transformations	VL	2	Lecture: Multiscale Materials	VL	3				
15	Experimental Methods for the Characterization of Materials	VL	2	Polymer Composites	VL	3				
16	Übung zu Phänomene und Methoden der Materialwissenschaft	HÜ	2							
17										
18										
19	**Materials Modeling**			**Quantum Mechanics of Solids**			**Nonlinear Structural Analysis**			
20	Material Modeling	VL	2	Quantum Mechanics of Solids	VL	2	Nonlinear Structural Analysis	VL	3	
21	Material Modeling	GÜ	2	Quantum Mechanics of Solids	GÜ	1	Nonlinear Structural Analysis	GÜ	1	
22										
23										
24										
25							**Continuum Mechanics**			
26							Continuum Mechanics	VL	2	
27							Continuum Mechanics	GÜ	2	
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.