Course of Study Data Science (Study Cohort w20)

Sample course plan A Bachelor Data Science (DSBS)
Specialisation Mechanics

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	Semester 5	Form	Hrs/wk	Semester 6	Form	Hrs/wk
1	**Discrete Algebraic Structures**			**Automata Theory and Formal Languages**			**Databases**			**Signals and Systems**			**Introduction to Information Security**			**Seminars Data Science**		
2	Discrete Algebraic Structures	VL	2	Automata Theory and Formal Languages	VL	2	Databases	VL	4	Signals and Systems	VL	3	Introduction to Information Security	VL	3	Seminar Data Science I	SE	2
3	Discrete Algebraic Structures	UE	2	Automata Theory and Formal Languages	UE	2	Databases	PBL	1	Signals and Systems	UE	2	Introduction to Information Security	UE	2	Seminar Data Science II	SE	2
4																		
5																		
6																		
7	**Procedural Programming**			**Stochastics**			**Numerical Mathematics I**			**Foundations of Management**			**Data Mining**			**Bachelor Thesis**		
8	Procedural Programming	VL	1	Stochastics	VL	2	Numerical Mathematics I	VL	2	Introduction to Management	VL	3	Data Mining	VL	2			
9	Procedural Programming	HÜ	1	Stochastics	UE	2	Numerical Mathematics I	UE	2	Management Tutorial	UE	2	Data Mining	UE	2			
10	Procedural Programming	PR	2															
11																		
12																		
13	**Linear Algebra**			**Mathematical Analysis**			**Mathematics III**			**Graph Theory and Optimization**			**Practical Course Data Science**					
14	Linear Algebra	VL	4	Mathematical Analysis	VL	4	Analysis III	VL	2	Graph Theory and Optimization	VL	2	Practical Course Data Science	PR	8			
15	Linear Algebra	HÜ	2	Mathematical Analysis	HÜ	2	Analysis III	UE	1	Graph Theory and Optimization	UE	2						
16	Linear Algebra	UE	2	Mathematical Analysis	UE	2	Analysis III	HÜ	1									
17							Differential Equations 1	VL	2									
18							Differential Equations 1	UE	1									
19							Differential Equations 1	HÜ	1	**Scientific Programming**			**Ethics in Information Technology**					
20										Scientific Programming	VL	3	Ethics in Information Technology	VL	2			
21	**Mechanics I (Statics)**			**Programming Paradigms**			**Algorithms and Data Structures**			Scientific Programming	UE	2	Ethics in Information Technology	SE	2			
22	Mechanics I	VL	2	Programming Paradigms	VL	2	Algorithms and Data Structures	VL	4									
23	Mechanics I	UE	2	Programming Paradigms	HÜ	1				**Machine Learning**			**Functional Programming**					
24	Mechanics I	HÜ	1	Programming Paradigms	PR	2	Algorithms and Data Structures	UE	1	Machine Learning	VL	2	Functional Programming	VL	2			
25										Machine Learning	UE	2	Functional Programming	HÜ	2			
26													Functional Programming	UE	2			
27				**Mechanics II: Mechanics of Materials**			**Advanced Stochastics**											
28				Mechanics II	VL	2	Advanced Stochastics	VL	2				**Mechanics III (Dynamics)**					
29				Mechanics II	UE	2	Advanced Stochastics	UE	2				Mechanics III	VL	3			
30				Mechanics II	HÜ	2							Mechanics III	UE	2			
31													Mechanics III	HÜ	1			
32																		
33																		
34																		
35																		
36																		

Non-technical Courses for Bachelors (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.