Course of Study Data Science (Study Cohort w23)

Sample course plan G Bachelor Data Science (DSBS)

Specialisation I. Mathematics/Computer Science, Specialisation II. Application

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

Sem						
1	**Discrete Algebraic Structures**	**Automata Theory and Formal Languages**	**Databases**	**Signals and Systems**	**Introduction to Information Security**	**Ethics in Information Technology**
2	Discrete Algebraic Structures VL 2	Automata Theory and Formal Languages VL 2	Databases VL 3	Signals and Systems VL 3	Introduction to Information Security VL 2	Ethics in Information Technology VL 2
3	Discrete Algebraic Structures GÜ 2	Automata Theory and Formal Languages GÜ 2	Databases - Exercise GÜ 2	Signals and Systems GÜ 2	Introduction to Information Security GÜ 2	Ethics in Information Technology SE 2
4						
5						
6						
7	**Procedural Programming for Computer Engineers**	**Stochastics**	**Numerical Mathematics I**	**Graph Theory and Optimization**	**Data Mining**	**Introduction to Electrical Engineering (Technomathematics)**
8	Procedural Programming for Computer Engineers VL 2	Stochastics VL 2	Numerical Mathematics I VL 2	Graph Theory and Optimization VL 2	Data Mining VL 2	
9	Procedural Programming for Computer Engineers HÜ 1	Stochastics GÜ 2	Numerical Mathematics I GÜ 2	Graph Theory and Optimization GÜ 2	Data Mining PBL 2	Introduction to Electrical Engineering VL 3
10	Procedural Programming for Computer Engineers PR 2					Introduction to Electrical Engineering GÜ 2
11						
12						
13	**Mathematics I (EN)**	**Foundations of Management**	**Algorithms and Data Structures**	**Seminars Computer Science**	**Machine Learning II**	**Bachelor Thesis**
14	Mathematics I VL 4	Introduction to Management VL 3	Algorithms and Data Structures VL 4	Introductory Seminar Computer Science II SE 2	Machine Learning II VL 2	
15	Mathematics I HÜ 2	Management Tutorial GÜ 2	Algorithms and Data Structures GÜ 1	Introductory Seminar Computer Science I SE 2	Machine Learning II GÜ 3	
16	Mathematics I GÜ 2					
17						
18						
19		**Programming Paradigms**	**Statistics**	**Scientific Programming**	**Computer Engineering**	
20		Programming Paradigms VL 2	Statistics VL 3	Scientific Programming VL 3	Computer Engineering VL 3	
21	**Introduction to Data Science**	Programming Paradigms HÜ 1	Statistics GÜ 1	Scientific Programming GÜ 2	Computer Engineering GÜ 1	
22	Introduction to Data Science VL 2	Programming Paradigms PR 2				
23	Introduction to Data Science SE 2					
24						
25		**Mathematics II (EN)**	**Mathematics III (EN)**	**Machine Learning I**	**Combinatorial Structures and Algorithms**	
26		Mathematics II VL 4	Analysis III VL 2	Machine Learning I VL 2	Combinatorial Structures and Algorithms VL 3	
27		Mathematics II HÜ 2	Analysis III HÜ 1	Machine Learning I GÜ 3	Combinatorial Structures and Algorithms GÜ 1	
28		Mathematics II GÜ 2	Analysis III GÜ 1			
29			Differential Equations 1 VL 2			
30			Differential Equations 1 HÜ 1			
31			Differential Equations 1 GÜ 1			
32						

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.