Course of Study Data Science (Study Cohort w22)

Sample course plan K 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

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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						
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7	**Procedural Programming for Computer Engineers**	**Stochastics**	**Numerical Mathematics I**	**Graph Theory and Optimization**	**Data Mining**	**Mathematics IV (EN)**
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	Differential Equations 2 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	Differential Equations 2 HÜ 1
10	Procedural Programming for Computer Engineers PR 2					Differential Equations 2 GÜ 1
11	HÜ 1					Complex Functions VL 2
12						Complex Functions HÜ 1
						Complex Functions GÜ 1
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**	**Introduction to Data Acquisition and Processing**	
20		Programming Paradigms VL 2	Statistics VL 3	Scientific Programming VL 3	Measurements: Methods and Data Processing VL 2	
21	**Introduction to Data Science**	Programming Paradigms HÜ 1	Statistics GÜ 1	Scientific Programming GÜ 2	Measurements: Methods and Data Processing GÜ 1	
22	Introduction to Data Science VL 2	Programming Paradigms PR 2			Data Acquisition and Data Processing PS 2	
23	Introduction to Data Science SE 1					
24						
25		**Mathematics II (EN)**	**Mathematics III (EN)**	**Machine Learning I**	**Introduction to Control Systems**	
26		Mathematics II VL 4	Analysis III VL 2	Machine Learning I VL 2	Introduction to Control Systems VL 2	
27		Mathematics II HÜ 1	Analysis III HÜ 1	Machine Learning I GÜ 3	Introduction to Control Systems GÜ 2	
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.