

# Course of Study Data Science (Study Cohort w21)

Sample course plan D Bachelor Data Science (DSBS)

		Core qualification Compulsory		Specialisation Compulsory		Focus Compulsory		Thesis Compulsory	
		Core qualification Elective Compulsory		Specialisation Elective Compulsory		Focus Elective Compulsory		Interdisciplinary complement	
Specialisation	Logistics	Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6		
		Form Hrs/wk	Form Hrs/wk	Form Hrs/wk	Form Hrs/wk	Form Hrs/wk	Form Hrs/wk	Form Hrs/wk	Form Hrs/wk
1	<b>Discrete Algebraic Structures</b>		<b>Automata Theory and Formal Languages</b>	<b>Databases</b>	<b>Signals and Systems</b>	<b>Introduction to Information Security</b>	<b>Seminars Data Science</b>		
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 2	Seminar Data Science I SE 2			
3	Discrete Algebraic Structures GÜ 2	Automata Theory and Formal Languages GÜ 2	Databases PBL 1	Signals and Systems GÜ 2	Introduction to Information Security GÜ 2	Seminar Data Science II SE 2			
4									
5									
6									
7	<b>Procedural Programming for Computer Engineers</b>	<b>Stochastics</b>	<b>Numerical Mathematics I</b>	<b>Foundations of Management</b>	<b>Data Mining</b>	<b>Computability and Complexity Theory</b>			
8	Procedural Programming for Computer Engineers VL 1	Stochastics VL 2	Numerical Mathematics I VL 2	Introduction to Management VL 3	Data Mining VL 2	Computability and Complexity Theory VL 2			
9	Procedural Programming for Computer Engineers HÜ 1	Stochastics GÜ 2	Numerical Mathematics I GÜ 2	Management Tutorial GÜ 2	Data Mining GÜ 2	Computability and Complexity Theory GÜ 2			
10	Procedural Programming for Computer Engineers PR 2								
11									
12									
13	<b>Mathematics I (EN)</b>	<b>Programming Paradigms</b>	<b>Algorithms and Data Structures</b>	<b>Graph Theory and Optimization</b>	<b>Practical Course Data Science</b>	<b>Bachelor Thesis</b>			
14	Analysis I VL 2	Programming Paradigms VL 2	Algorithms and Data Structures VL 4	Graph Theory and Optimization VL 2	Practical Course Data Science PR 8				
15	Analysis I HÜ 1	Programming Paradigms HÜ 1	Algorithms and Data Structures GÜ 1	Graph Theory and Optimization GÜ 2					
16	Analysis I GÜ 1	Programming Paradigms PR 2							
17	Linear Algebra I VL 2								
18	Linear Algebra I HÜ 1								
19	Linear Algebra I GÜ 1								
20		<b>Mathematics II (EN)</b>	<b>Statistics</b>	<b>Scientific Programming</b>	<b>Ethics in Information Technology</b>				
21		Analysis II VL 2	Statistics VL 3	Scientific Programming VL 3	Ethics in Information Technology VL 2				
22	<b>Traffic systems and handling technology</b>	Analysis II HÜ 1	Statistics GÜ 1	Scientific Programming GÜ 2	Ethics in Information Technology SE 2				
23	Transport- and Handling-Technology VL 2	Analysis II GÜ 1							
24	Transport- and Handling-Technology GÜ 2	Linear Algebra II VL 2							
25		Linear Algebra II HÜ 1							
26		Linear Algebra II GÜ 1	<b>Mathematics III (EN)</b>	<b>Machine Learning</b>	<b>Simulation of Transport and Handling Systems</b>				
27			Analysis III VL 2	Machine Learning VL 2	Simulation of Transport and Handling Systems VL 1				
28			Analysis III HÜ 1	Machine Learning GÜ 2	Simulation of Transport and Handling Systems GÜ 3				
29			Analysis III GÜ 1						
30			Differential Equations 1 VL 2						
31			Differential Equations 1 HÜ 1						
32			Differential Equations 1 GÜ 1						

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.

