

Course of Study Data Science (Study Cohort w23)

Sample course plan H Bachelor Data Science (DSBS) Dual study program

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

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		Computability and Complexity Theory
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		Computability and Complexity Theory 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		Computability and Complexity Theory GÜ 2
10	Procedural Programming for Computer Engineers PR 2										
11											
12											
13	Mathematics I (EN)		Foundations of Management		Algorithms and Data Structures		Seminars Computer Science		Machine Learning II		Bachelor thesis (dual study program)
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											
20			Programming Paradigms		Statistics		Scientific Programming		Practical module 5 (dual study program, Bachelor's degree)		
21	Practical module 1 (dual study program, Bachelor's degree)		Programming Paradigms VL 2		Statistics VL 3		Scientific Programming VL 3		Practical term 5 0		
22	Practical term 1 0		Programming Paradigms HÜ 1		Statistics GÜ 1		Scientific Programming GÜ 2				
23			Programming Paradigms PR 2								
24											
25											
26			Mathematics II (EN)		Mathematics III (EN)		Machine Learning I		Functional Programming		
27	Introduction to Data Science		Mathematics II VL 4		Analysis III VL 2		Machine Learning I VL 2		Functional Programming VL 2		
28	Introduction to Data Science VL 2		Mathematics II HÜ 2		Analysis III HÜ 1		Machine Learning I GÜ 3		Functional Programming HÜ 2		
29	Introduction to Data Science SE 2		Mathematics II GÜ 2		Analysis III GÜ 1				Functional Programming GÜ 2		
30					Differential Equations 1 VL 2						
31					Differential Equations 1 HÜ 1						
32					Differential Equations 1 GÜ 1						
33			Practical module 2 (dual study program, Bachelor's degree)		Practical module 3 (dual study program, Bachelor's degree)		Practical module 4 (dual study program, Bachelor's degree)		Engineering Mechanics I (Stereostatics)		
34			Practical term 2 0		Practical term 3 0		Practical term 4 0		Engineering Mechanics I VL 2		
35									Engineering Mechanics I GÜ 2		
36									Engineering Mechanics I HÜ 1		
37											
38											

Linking theory and practice (dual study program, Bachelor's degree) (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.

