

# Course of Study Data Science (Study Cohort w22)

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	<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>Ethics in Information Technology</b>
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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6											
7	<b>Procedural Programming for Computer Engineers</b>		<b>Stochastics</b>		<b>Numerical Mathematics I</b>		<b>Graph Theory and Optimization</b>		<b>Data Mining</b>		<b>Computability and Complexity Theory</b>
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	<b>Mathematics I (EN)</b>		<b>Foundations of Management</b>		<b>Algorithms and Data Structures</b>		<b>Seminars Computer Science</b>		<b>Machine Learning II</b>		<b>Bachelor thesis (dual study program)</b>
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											
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20			<b>Programming Paradigms</b>		<b>Statistics</b>		<b>Scientific Programming</b>		<b>Practical module 5 (dual study program, Bachelor's degree)</b>		
21	<b>Practical module 1 (dual study program, Bachelor's degree)</b>		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			<b>Mathematics II (EN)</b>		<b>Mathematics III (EN)</b>		<b>Machine Learning I</b>		<b>Functional Programming</b>		
27	<b>Introduction to Data Science</b>		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 1		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			<b>Practical module 2 (dual study program, Bachelor's degree)</b>		<b>Practical module 3 (dual study program, Bachelor's degree)</b>		<b>Practical module 4 (dual study program, Bachelor's degree)</b>		<b>Engineering Mechanics I (Stereostatics)</b>		
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.

