

Course of Study Data Science (Study Cohort w21)

Sample course plan A Bachelor Data Science (DSBS)

Specialisation Materials Science												
1	Discrete Algebraic Structures Discrete Algebraic Structures VL 2 Discrete Algebraic Structures GÜ 2		Automata Theory and Formal Languages Automata Theory and Formal Languages VL 2 Automata Theory and Formal Languages GÜ 2		Databases Databases VL 3 Databases GÜ 1		Signals and Systems Signals and Systems VL 3 Signals and Systems GÜ 2		Introduction to Information Security Introduction to Information Security VL 2 Introduction to Information Security GÜ 2		Seminars Computer Science Introductory Seminar Computer Science II SE 2 Introductory Seminar Computer Science I SE 2	
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7	Procedural Programming for Computer Engineers Procedural Programming for Computer Engineers VL 1 Procedural Programming for Computer Engineers HÜ 1 Procedural Programming for Computer Engineers PR 2		Stochastics Stochastics VL 2 Stochastics GÜ 2		Numerical Mathematics I Numerical Mathematics I VL 2 Numerical Mathematics I GÜ 2		Foundations of Management Introduction to Management VL 3 Management Tutorial GÜ 2		Data Mining Data Mining VL 2 Data Mining PBL 2		Ethics in Information Technology Ethics in Information Technology VL 2 Ethics in Information Technology SE 2	
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13	Mathematics I (EN) Analysis I VL 2 Analysis I HÜ 1 Analysis I GÜ 1 Linear Algebra I VL 2 Linear Algebra I HÜ 1 Linear Algebra I GÜ 1		Programming Paradigms Programming Paradigms VL 2 Programming Paradigms HÜ 1 Programming Paradigms PR 2		Algorithms and Data Structures Algorithms and Data Structures VL 4 Algorithms and Data Structures GÜ 1		Graph Theory and Optimization Graph Theory and Optimization VL 2 Graph Theory and Optimization GÜ 2		Machine Learning II Machine Learning II VL 2 Machine Learning II GÜ 3		Bachelor Thesis	
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19			Mathematics II (EN) Analysis II VL 2 Analysis II HÜ 1 Analysis II GÜ 1 Linear Algebra II VL 2 Linear Algebra II HÜ 1 Linear Algebra II GÜ 1		Statistics Statistics VL 3 Statistics GÜ 1		Scientific Programming Scientific Programming VL 3 Scientific Programming GÜ 2		Functional Programming Functional Programming VL 2 Functional Programming HÜ 2 Functional Programming GÜ 2			
20												
21												
22												
23	Fundamentals of Materials Science (part 1) Fundamentals of Materials Science I VL 2 Physical and Chemical Basics of Materials Science VL 2		Mathematics III (EN) Analysis III VL 2 Analysis III HÜ 1 Analysis III GÜ 1 Differential Equations 1 VL 2 Differential Equations 1 HÜ 1 Differential Equations 1 GÜ 1		Machine Learning I Machine Learning I VL 2 Machine Learning I GÜ 2		Engineering Mechanics III (Dynamics) Engineering Mechanics III VL 3 Engineering Mechanics III GÜ 2 Engineering Mechanics III HÜ 1					
24												
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27			Fundamentals of Materials Science (part 2) Fundamentals of Materials Science II VL 2 Advanced Materials Advanced Materials Characterization VL 2 Advanced Materials Design VL 2 Advanced Materials Design HÜ 2									
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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.

