Course of Study Data Science (Study Cohort w21)

Sample course plan A Bachelor Data Science (DSBS)
Specialisation Electrical Engineering

Legend:

Core Qualification Compulsory	Specialisation Compulsory	Focus Compulsory	Thesis Compulsory
Core Qualification Elective Compulsory	Specialisation Elective Compulsory	Focus Elective Compulsory	Interdisciplinary complement

Rows 1–6

Discrete Algebraic Structures		Automata Theory and Formal Languages		Databases		Signals and Systems		Introduction to Information Security		Seminars Computer Science	
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	Introductory Seminar Computer Science II	SE 2
Discrete Algebraic Structures	GÜ 2	Automata Theory and Formal Languages	GÜ 2	Databases	GÜ 1	Signals and Systems	GÜ 2	Introduction to Information Security	GÜ 2	Introductory Seminar Computer Science I	SE 2

Rows 7–12

Procedural Programming for Computer Engineers		Stochastics		Numerical Mathematics I		Foundations of Management		Data Mining		Ethics in Information Technology	
Procedural Programming for Computer Engineers	VL 1	Stochastics	VL 2	Numerical Mathematics I	VL 2	Introduction to Management	VL 3	Data Mining	VL 2	Ethics in Information Technology	VL 2
Procedural Programming for Computer Engineers	HÜ 1	Stochastics	GÜ 2	Numerical Mathematics I	GÜ 2	Management Tutorial	GÜ 2	Data Mining	PBL 2	Ethics in Information Technology	SE 2
Procedural Programming for Computer Engineers	PR 2										

Rows 13–18

Mathematics I (EN)		Programming Paradigms		Algorithms and Data Structures		Graph Theory and Optimization		Machine Learning II		Bachelor Thesis
Analysis I	VL 2	Programming Paradigms	VL 2	Algorithms and Data Structures	VL 4	Graph Theory and Optimization	VL 2	Machine Learning II	VL 2	
Analysis I	HÜ 1	Programming Paradigms	HÜ 1	Algorithms and Data Structures	GÜ 1	Graph Theory and Optimization	GÜ 2	Machine Learning II	GÜ 3	
Analysis I	GÜ 1	Programming Paradigms	PR 2							
Linear Algebra I	VL 2									
Linear Algebra I	HÜ 1									
Linear Algebra I	GÜ 1									

Rows 19–24

Electrical Engineering I: Direct Current Networks and Electromagnetic Fields		Mathematics II (EN)		Statistics		Scientific Programming		Functional Programming	
		Analysis II	VL 2	Statistics	VL 3	Scientific Programming	VL 3	Functional Programming	VL 2
Electrical Engineering I: Direct Current Networks and Electromagnetic Fields	VL 3	Analysis II	HÜ 1	Statistics	GÜ 1	Scientific Programming	GÜ 2	Functional Programming	HÜ 2
Electrical Engineering I: Direct Current Networks and Electromagnetic Fields	GÜ 2	Analysis II	GÜ 1					Functional Programming	GÜ 2
		Linear Algebra II	VL 2						
		Linear Algebra II	HÜ 1						
		Linear Algebra II	GÜ 1						

Rows 25–32

Electrical Engineering II: Alternating Current Networks and Basic Devices		Mathematics III (EN)		Machine Learning I		Engineering Mechanics III (Dynamics)	
		Analysis III	VL 2	Machine Learning I	VL 2	Engineering Mechanics III	VL 3
Electrical Engineering II: Alternating Current Networks and Basic Devices	VL 3	Analysis III	HÜ 1	Machine Learning I	GÜ 2	Engineering Mechanics III	GÜ 2
Electrical Engineering II: Alternating Current Networks and Basic Devices	GÜ 2	Analysis III	GÜ 1			Engineering Mechanics III	HÜ 1
		Differential Equations 1	VL 2				
		Differential Equations 1	HÜ 1				
		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.