

# Course of Study Data Science (Study Cohort w20)

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

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

LP	Semester 1	FormHrs/wk	Semester 2	FormHrs/wk	Semester 3	FormHrs/wk	Semester 4	FormHrs/wk	Semester 5	FormHrs/wk	Semester 6	FormHrs/wk						
1	<b>Discrete Algebraic Structures</b>	VL 2	<b>Automata Theory and Formal Languages</b>	VL 2	<b>Databases</b>	VL 4	<b>Signals and Systems</b>	VL 3	<b>Introduction to Information Security</b>	VL 3	<b>Seminars Data Science</b>	SE 2						
2													Discrete Algebraic Structures	Automata Theory and Formal Languages	Databases	Signals and Systems	Introduction to Information Security	Seminar Data Science I
3													Discrete Algebraic Structures	Automata Theory and Formal Languages	Databases	Signals and Systems	Introduction to Information Security	Seminar Data Science II
4													Discrete Algebraic Structures	Automata Theory and Formal Languages	Databases	Signals and Systems	Introduction to Information Security	Seminar Data Science II
5													Discrete Algebraic Structures	Automata Theory and Formal Languages	Databases	Signals and Systems	Introduction to Information Security	Seminar Data Science II
6													Discrete Algebraic Structures	Automata Theory and Formal Languages	Databases	Signals and Systems	Introduction to Information Security	Seminar Data Science II
7	<b>Procedural Programming</b>	VL 1	<b>Stochastics</b>	VL 2	<b>Numerical Mathematics I</b>	VL 2	<b>Foundations of Management</b>	VL 3	<b>Data Mining</b>	VL 2	<b>Semiconductor Circuit Design</b>	VL 3						
8													Procedural Programming	Stochastics	Numerical Mathematics I	Introduction to Management	Data Mining	Semiconductor Circuit Design
9													Procedural Programming	Stochastics	Numerical Mathematics I	Management Tutorial	Data Mining	Semiconductor Circuit Design
10													Procedural Programming	Stochastics	Numerical Mathematics I	Management Tutorial	Data Mining	Semiconductor Circuit Design
11	Procedural Programming	Stochastics	Numerical Mathematics I	Management Tutorial	Data Mining	Semiconductor Circuit Design												
12	Procedural Programming	Stochastics	Numerical Mathematics I	Management Tutorial	Data Mining	Semiconductor Circuit Design												
13	<b>Linear Algebra</b>	VL 4	<b>Mathematical Analysis</b>	VL 4	<b>Mathematics III</b>	VL 2	<b>Graph Theory and Optimization</b>	VL 2	<b>Practical Course Data Science</b>	PR 8	<b>Bachelor Thesis</b>							
14													Linear Algebra	Mathematical Analysis	Analysis III	Graph Theory and Optimization	Practical Course Data Science	
15													Linear Algebra	Mathematical Analysis	Analysis III	Graph Theory and Optimization	Practical Course Data Science	
16													Linear Algebra	Mathematical Analysis	Analysis III	Graph Theory and Optimization	Practical Course Data Science	
17													Linear Algebra	Mathematical Analysis	Analysis III	Graph Theory and Optimization	Practical Course Data Science	
18													Linear Algebra	Mathematical Analysis	Analysis III	Graph Theory and Optimization	Practical Course Data Science	
19	<b>Electrical Engineering I: Direct Current Networks and Electromagnetic Fields</b>	VL 3	<b>Programming Paradigms</b>	VL 2	<b>Algorithms and Data Structures</b>	VL 4	<b>Scientific Programming</b>	VL 3	<b>Ethics in Information Technology</b>	VL 2	<b>Computer Engineering</b>	VL 3						
21													Electrical Engineering I: Direct Current Networks and Electromagnetic Fields	Programming Paradigms	Algorithms and Data Structures	Scientific Programming	Ethics in Information Technology	Computer Engineering
22													Electrical Engineering I: Direct Current Networks and Electromagnetic Fields	Programming Paradigms	Algorithms and Data Structures	Scientific Programming	Ethics in Information Technology	Computer Engineering
23													Electrical Engineering I: Direct Current Networks and Electromagnetic Fields	Programming Paradigms	Algorithms and Data Structures	Scientific Programming	Ethics in Information Technology	Computer Engineering
24													Electrical Engineering I: Direct Current Networks and Electromagnetic Fields	Programming Paradigms	Algorithms and Data Structures	Scientific Programming	Ethics in Information Technology	Computer Engineering
25													Electrical Engineering I: Direct Current Networks and Electromagnetic Fields	Programming Paradigms	Algorithms and Data Structures	Scientific Programming	Ethics in Information Technology	Computer Engineering
26	Electrical Engineering I: Direct Current Networks and Electromagnetic Fields	Programming Paradigms	Algorithms and Data Structures	Scientific Programming	Ethics in Information Technology	Computer Engineering												
27			<b>Electrical Engineering II: Alternating Current Networks and Basic Devices</b>	VL 3	<b>Advanced Stochastics</b>	VL 2	<b>Machine Learning</b>	VL 2	<b>Computer Engineering</b>	VL 3								
28													Electrical Engineering II: Alternating Current Networks and Basic Devices	Advanced Stochastics	Machine Learning	Computer Engineering		
29													Electrical Engineering II: Alternating Current Networks and Basic Devices	Advanced Stochastics	Machine Learning	Computer Engineering		
30													Electrical Engineering II: Alternating Current Networks and Basic Devices	Advanced Stochastics	Machine Learning	Computer Engineering		
31													Electrical Engineering II: Alternating Current Networks and Basic Devices	Advanced Stochastics	Machine Learning	Computer Engineering		
32													Electrical Engineering II: Alternating Current Networks and Basic Devices	Advanced Stochastics	Machine Learning	Computer Engineering		

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.