Course of Study Computational Science and Engineering (Study Cohort w20)

Sample course plan C Bachelor Computational Science and Engineering (IIWBS)
Specialisation I. Computer Science, Specialisation II. Mathematics & Engineering Science, Specialisation III. Subject Specific Focus

Legend:

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

LP						
1	**Discrete Algebraic Structures**	**Electrical Engineering II: Alternating Current Networks and Basic Devices**	**Numerical Mathematics I**	**Signals and Systems**	**Introduction to Communications and Random Processes**	**Computability and Complexity Theory**
2	Discrete Algebraic Structures VL 2	Electrical Engineering II: Alternating Current Networks and Basic Devices VL 3	Numerical Mathematics I VL 2	Signals and Systems VL 3	Introduction to Communications and Random Processes VL 3	Computability and Complexity Theory VL 2
3	Discrete Algebraic Structures GÜ 2	Electrical Engineering II: Alternating Current Networks and Basic Devices GÜ 2	Numerical Mathematics I GÜ 2	Signals and Systems GÜ 2	Introduction to Communications and Random Processes HÜ 1	Computability and Complexity Theory GÜ 2
4					Introduction to Communications and Random Processes GÜ 1	
5						
6						
7	**Procedural Programming**	**Automata Theory and Formal Languages**	**Computer Engineering**	**Stochastics**	**Introduction to Control Systems**	**Bachelor Thesis**
8	Procedural Programming VL 1	Automata Theory and Formal Languages VL 2	Computer Engineering VL 3	Stochastics VL 2	Introduction to Control Systems VL 2	
9	Procedural Programming HÜ 1	Automata Theory and Formal Languages GÜ 2	Computer Engineering GÜ 1	Stochastics GÜ 2	Introduction to Control Systems GÜ 2	
10	Procedural Programming PR 2					
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13	**Electrical Engineering I: Direct Current Networks and Electromagnetic Fields**	**Foundations of Management**	**Computernetworks and Internet Security**	**Embedded Systems**	**Practical Course IIW**	
14	Electrical Engineering I: Direct Current Networks and Electromagnetic Fields VL 3	Introduction to Management VL 3	Computer Networks and Internet Security VL 3	Embedded Systems VL 3	Practical Course IIW PBL 8	
15	Electrical Engineering I: Direct Current Networks and Electromagnetic Fields GÜ 2	Management Tutorial GÜ 2	Computer Networks and Internet Security GÜ 1	Embedded Systems GÜ 1		
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19	**Mathematics I**	**Mathematics II**	**Mathematics III**	**Seminars Computer Science**	**Functional Programming**	
20	Linear Algebra I VL 2	Linear Algebra II VL 2	Analysis III VL 2	Introductory Seminar Computer Science II SE 2	Functional Programming VL 2	
21	Linear Algebra I GÜ 1	Linear Algebra II GÜ 1	Analysis III GÜ 1	Introductory Seminar Computer Science I SE 2	Functional Programming HÜ 2	
22	Linear Algebra I HÜ 1	Linear Algebra II HÜ 1	Analysis III HÜ 1		Functional Programming GÜ 2	
23	Analysis I VL 2	Analysis II VL 2	Differential Equations 1 VL 2			
24	Analysis I GÜ 1	Analysis II HÜ 1	Differential Equations 1 GÜ 1			
25	Analysis I HÜ 1	Analysis II GÜ 1	Differential Equations 1 HÜ 1		**Combinatorial Structures and Algorithms**	
26					Combinatorial Structures and Algorithms VL 3	
27		**Programming Paradigms**	**Algorithms and Data Structures**		Combinatorial Structures and Algorithms GÜ 1	
28		Programming Paradigms VL 2	Algorithms and Data Structures VL 4			
29		Programming Paradigms HÜ 1	Algorithms and Data Structures GÜ 1			
30		Programming Paradigms PR 2				
31						
32						

Non-technical Courses for Bachelors (from catalogue) - 6LP

Technical Complementary Course for Computational Science and Engineering Bachelor - 12LP

The choice of courses from the catalogue is flexible (depends on the semestral work load), provided the necessary number of required credits is reached.