Course of Study Computational Science and Engineering (Study Cohort w21)

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

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