

# 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.

Legend:

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

Subject Specific Focus	Form Hrs/wk	Semester 2	Form Hrs/wk	Semester 3	Form Hrs/wk	Semester 4	Form Hrs/wk	Semester 5	Form Hrs/wk	Semester 6	Form Hrs/wk
1		<b>Discrete Algebraic Structures</b> Discrete Algebraic Structures VL 2 Discrete Algebraic Structures GÜ 2	<b>Electrical Engineering II: Alternating Current Networks and Basic Devices</b> Electrical Engineering II: Alternating Current Networks and Basic Devices VL 3 Electrical Engineering II: Alternating Current Networks and Basic Devices GÜ 2	<b>Numerical Mathematics I</b> Numerical Mathematics I VL 2 Numerical Mathematics I GÜ 2	<b>Signals and Systems</b> Signals and Systems VL 3 Signals and Systems GÜ 2	<b>Introduction to Communications and Random Processes</b> Introduction to Communications and Random Processes VL 3 Introduction to Communications and Random Processes HÜ 1 Introduction to Communications and Random Processes GÜ 1	<b>Computability and Complexity Theory</b> Computability and Complexity Theory VL 2 Computability and Complexity Theory GÜ 2				
2											
3											
4											
5											
6											
7		<b>Procedural Programming</b> Procedural Programming VL 1 Procedural Programming HÜ 1 Procedural Programming PR 2	<b>Automata Theory and Formal Languages</b> Automata Theory and Formal Languages VL 2 Automata Theory and Formal Languages GÜ 2	<b>Computer Engineering</b> Computer Engineering VL 3 Computer Engineering GÜ 1	<b>Stochastics</b> Stochastics VL 2 Stochastics GÜ 2	<b>Introduction to Control Systems</b> Introduction to Control Systems VL 2 Introduction to Control Systems GÜ 2	<b>Bachelor Thesis</b>				
8											
9											
10											
11											
12											
13		<b>Electrical Engineering I: Direct Current Networks and Electromagnetic Fields</b> Electrical Engineering I: Direct Current Networks and Electromagnetic Fields VL 3 Electrical Engineering I: Direct Current Networks and Electromagnetic Fields GÜ 2	<b>Foundations of Management</b> Introduction to Management VL 3 Management Tutorial GÜ 2	<b>Computernetworks and Internet Security</b> Computer Networks and Internet Security VL 3 Computer Networks and Internet Security GÜ 1	<b>Embedded Systems</b> Embedded Systems VL 3 Embedded Systems GÜ 1	<b>Practical Course IIW</b> Practical Course IIW PBL 8					
14											
15											
16											
17											
18											
19		<b>Mathematics I</b> 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	<b>Mathematics II</b> 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	<b>Mathematics III</b> 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	<b>Seminars Computer Science</b> Introductory Seminar Computer Science II SE 2 Introductory Seminar Computer Science I SE 2	<b>Functional Programming</b> Functional Programming VL 2 Functional Programming HÜ 2 Functional Programming GÜ 2					
20											
21											
22											
23											
24											
25		<b>Programming Paradigms</b> Programming Paradigms VL 2 Programming Paradigms HÜ 1 Programming Paradigms PR 2	<b>Algorithms and Data Structures</b> Algorithms and Data Structures VL 4 Algorithms and Data Structures GÜ 1								
26											
27											
28											
29											
30											
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.

