

# Course of Study Computational Science and Engineering (Study Cohort w19)

Sample course plan M 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	Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6		
1	<b>Discrete Algebraic Structures</b>	<b>Electrical Engineering II: Alternating Current Networks and Basic Devices</b>	<b>Numerical Mathematics I</b>	<b>Signals and Systems</b>	<b>Introduction to Communications and Random Processes</b>	<b>Software Engineering</b>		
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	Software Engineering VL 2		
3	Discrete Algebraic Structures UE 2		Numerical Mathematics I UE 2	Signals and Systems UE 2		Introduction to Communications and Random Processes	Software Engineering UE 2	
4								
5								
6			Electrical Engineering II: Alternating Current Networks and Basic Devices UE 2				Introduction to Communications and Random Processes HÜ 1	
6								
7	<b>Procedural Programming</b>	<b>Automata Theory and Formal Languages</b>	<b>Computer Engineering</b>	<b>Stochastics</b>	<b>Introduction to Control Systems</b>	<b>Introduction into Medical Technology and Systems</b>		
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	Introduction into Medical Technology and Systems VL 2		
9	Procedural Programming HÜ 1		Computer Engineering UE 1	Stochastics UE 2	Introduction to Control Systems		Introduction into Medical Technology and Systems	
10	Procedural Programming PR 2		Computer Engineering		Introduction to Control Systems		Introduction into Medical Technology and Systems	
11			Computer Engineering		Introduction to Control Systems		Introduction into Medical Technology and Systems	
12			Automata Theory and Formal Languages UE 2		Introduction to Control Systems		Introduction into Medical Technology and Systems HÜ 1	
12								
13	<b>Electrical Engineering I: Direct Current Networks and Electromagnetic Fields</b>	<b>Foundations of Management</b>	<b>Computernetworks and Internet Security</b>	<b>Embedded Systems</b>	<b>Practical Course IIW</b>	<b>Bachelor Thesis</b>		
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 PR 4	Bachelor Thesis		
15		Management Tutorial HÜ 2		Computer Networks and Internet Security			Embedded Systems UE 1	
16				Computer Networks and Internet Security				
17				Computer Networks and Internet Security				
18		Electrical Engineering I: Direct Current Networks and Electromagnetic Fields UE 2						
18								
19	<b>Mathematics I</b>	<b>Mathematics II</b>	<b>Mathematics III</b>	<b>Seminars Computer Science and Mathematics</b>	<b>Computer Architecture</b>			
20	Linear Algebra I VL 2	Linear Algebra II VL 2	Analysis III VL 2	Seminar Computer Science und Mathematics 1 SE 2 Seminar Computer Science und Mathematics 2 SE 2 Seminar Computer Science und Mathematics 3 SE 2	Computer Architecture VL 2			
21	Linear Algebra I UE 1	Linear Algebra II UE 1	Analysis III UE 1		Computer Architecture PBL 2			
22	Linear Algebra I HÜ 1	Linear Algebra II HÜ 1	Analysis III HÜ 1		Computer Architecture UE 1			
23	Linear Algebra I	Linear Algebra II	Analysis III					
24	Analysis I VL 2	Analysis II VL 2	Differential Equations 1 VL 2					
24	Analysis I UE 1	Analysis II HÜ 1	Differential Equations 1 UE 1					
24	Analysis I HÜ 1	Analysis II UE 1	Differential Equations 1 HÜ 1					
25								
26								
27		<b>Objectoriented Programming</b>	<b>Algorithms and Data Structures</b>					
28		Objectoriented Programming VL 2	Algorithms and Data Structures VL 4					
29		Objectoriented Programming HÜ 1	Structures					
30		Objectoriented Programming PR 2	Algorithms and Data Structures UE 1					
31			Structures					

Nontechnical Complementary 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.