

# Course of Study Computational Science and Engineering (Study Cohort w14)

Sample course plan M Bachelor Computational Science and Engineering (IIWBS)  
Specialisation Computer Science

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	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>		<b>Electrical Engineering II: Alternating Current Networks and Basic Devices</b>		<b>Engineering Mechanics I</b>		<b>Engineering Mechanics II</b>		<b>Seminars Computer Science and Mathematics</b>		<b>Stochastics</b>	
2		Discrete Algebraic Structures VL 2				Engineering Mechanics I VL 3		Engineering Mechanics II VL 3				Stochastics VL 2
3		Discrete Algebraic Structures UE 2				Engineering Mechanics I UE 2		Engineering Mechanics II UE 2		Seminar Computational Engineering Science SE 2		Stochastics UE 2
4				Electrical Engineering II: VL 3						Seminar Computational Engineering Science SE 2		
5				Alternating Current Networks and Basic Devices						Seminar Computational Mathematics/Computer Science SE 2		
6				Electrical Engineering II: UE 2						Seminar Engineering Mathematics/Computer Science SE 2		
				Alternating Current Networks and Basic Devices								
7	<b>Procedural Programming</b>		<b>Objectoriented Programming, Algorithms and Data Structures</b>		<b>Numerical Mathematics I</b>		<b>Signals and Systems</b>		<b>Introduction to Control Systems</b>		<b>Solvers for Sparse Linear Systems</b>	
8		Procedural Programming VL 1				Numerical Mathematics I VL 2		Signals and Systems VL 3		Introduction to Control VL 2		
9		Procedural Programming UE 1		Objectoriented Programming, VL 4		Numerical Mathematics I UE 2		Signals and Systems HÜ 1		Systems		Solvers for Sparse Linear VL 2
10		Procedural Programming PR 2		Algorithms and Data Structures						Introduction to Control UE 2		Solvers for Sparse Linear UE 2
11				Objectoriented Programming, UE 1						Systems		
12				Algorithms and Data Structures								
13	<b>Electrical Engineering I: Direct Current Networks and Electromagnetic Fields</b>		<b>Logic, Automata and Formal Languages</b>		<b>Computer Engineering</b>		<b>Embedded Systems</b>		<b>Numerics and Computer Algebra</b>		<b>Mathematical Statistics</b>	
14						Computer Engineering VL 3		Embedded Systems VL 3		Numerical Mathematics and VL 2		Mathematical Statistics VL 3
15		Electrical Engineering I: VL 3		Logic, Automata Theory and VL 2		Computer Engineering UE 1		Embedded Systems UE 1		Computer Algebra		Mathematical Statistics UE 1
16		Direct Current Networks and		Formal Languages						Numerical Mathematics and UE 1		
17		Electromagnetic Fields		Logic, Automata Theory and UE 2						Computer Algebra		
18		Electrical Engineering I: UE 2		Formal Languages						Numerics and Computer SE 2		
		Direct Current Networks and Electromagnetic Fields								Algebra		
19	<b>Mathematics I</b>		<b>Foundations of Management</b>		<b>Computernetworks and Internet Security</b>		<b>Graph Theory and Optimization</b>		<b>Combinatorial Structures and Algorithms</b>		<b>Bachelor Thesis</b>	
20		Linear Algebra I VL 2		Introduction to Management VL 4				Graph Theory and VL 2				
21		Linear Algebra I UE 1		Project Entrepreneurship PBL 2		Computer Networks and VL 3		Optimization		Combinatorial Structures and VL 3		
22		Linear Algebra I HÜ 1				Internet Security		Graph Theory and UE 2		Algorithms		
23		Analysis I VL 2				Computer Networks and UE 1		Optimization		Combinatorial Structures and UE 1		
24		Analysis I UE 1				Internet Security						
25		Analysis I HÜ 1										
26			<b>Mathematics II</b>		<b>Mathematics III</b>							
27				Linear Algebra II VL 2		Analysis III VL 2						
28				Linear Algebra II UE 1		Analysis III UE 1						
29				Linear Algebra II HÜ 1		Analysis III HÜ 1						
30				Analysis II VL 2		Differential Equations 1 VL 2						
31				Analysis II HÜ 1		Differential Equations 1 UE 1						
32				Analysis II UE 1		Differential Equations 1 HÜ 1						

#### Nontechnical Complementary 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.