

Exclosure to Subject Specific Regulations from  
 25.07.2018  
 for Bachelor-Programme Computer Science  
 at TUHH  
 Programme Director: Prof. Karl-Heinz  
 Zimmermann  
 Total: 180 CP  
 Number of Specialisations to choose: 1



## Course Scheme Bachelor Computer Science (CSBS)

Consolidated Version  
 for Study Cohort: WiSe18/19  
 en\_head\_sda  
 and Approval of Chair from: 24.04.2019  
 Replaces Version from: 25.07.2018  
 In Force on: 01.10.2019  
 Out of Force on: 31.03.2023

Information regarding the lectures are available in the TUHH modul manuals as well as in the course catalogue.

Re com. Term	Module							Exami nation			Course Work		
	Module Name (German / English)	Language	Module Responsibility	Institute	C/EC (1)	CM/ OM (2)	CP (4)	Grade	Exami nation Form(3)	Compulsory	Course Work Type	Bonus (in %)	
<b>Core qualification</b> Compulsory Courses: 132 LP Optional Courses: 0 LP													
1	Diskrete Algebraische Strukturen / Discrete Algebraic Structures	DE	Prof. Zimmermann	E-13	C	CM	6	Y	KL				
1	Funktionales Programmieren / Functional Programming	EN	Prof. Schupp	E-16	C	CM	6	Y	KL	Y	ÜA	15	
1	Lineare Algebra / Linear Algebra	EN	Prof. Lindner	E-10	C	CM	8	Y	KL				
1	Prozedurale Programmierung / Procedural Programming	DE	Prof. Rump	E-19	C	CM	6	Y	KL				
2	Automatentheorie und Formale Sprachen / Automata Theory and Formal Languages	EN	Prof. Knopp	E-5	C	CM	6	Y	KL				
2	Grundlagen der Betriebswirtschaftslehre / Foundations of Management	DE	Prof. Ihl	W-11	C	CM	6	Y	FFA				
2	Mathematische Analysis / Mathematical Analysis	EN	Prof. Lindner	E-10	C	CM	8	Y	KL				
2	Objektorientierte Programmierung, Algorithmen und Datenstrukturen / Objectoriented Programming, Algorithms and Data Structures	DE	Prof. Grigat	E-2	C	CM	6	Y	KL				
2	Software-Engineering / Software Engineering	EN	Prof. Schupp	E-16	C	CM	6	Y	KL	Y	ÜA	15	
3	Einführung in die Informationssicherheit / Introduction to Information Security	EN	Prof. Gollmann	E-15	C	CM	6	Y	KL				
3	Mathematik III / Mathematics III	DE	Prof. Taraz	0-UNIHH	C	CM	8	Y	KL				
3	Rechnernetze und Internet-Sicherheit / Computernetworks and Internet Security	EN	Prof. Timm-Giel	E-4	C	CM	6	Y	KL				
3	Technische Informatik / Computer Engineering	DE	Prof. Falk	E-13	C	CM	6	Y	KL	Y	ÜA	10	
4	Berechenbarkeit und Komplexität / Computability and Complexity Theory	DE / EN	Prof. Zimmermann	E-13	C	CM	6	Y	MP				
4	Betriebssysteme / Operating Systems	DE	Prof. Turau	E-17	C	CM	6	Y	KL				
4	Signale und Systeme / Signals and Systems	DE / EN	Prof. Bauch	E-8	C	CM	6	Y	KL				

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4	Stochastik / Stochastics	DE / EN	Prof. Lindner	E-10	C	CM	6	Y	KL			
5	Seminare Informatik und Mathematik / Seminars Computer Science and Mathematics	DE / EN	Prof. Zimmermann	SD-E	C	CM	6	N	RE			
5	Software-Fachpraktikum / Software Industrial Internship		Prof. Zimmermann	SD-E	C	CM	6	N	SA lt. FPrO			
6	Graphentheorie und Optimierung / Graph Theory and Optimization	DE	Prof. Taraz	E-10	C	CM	6	Y	KL			
1-6	Nichttechnische Ergänzungskurse im Bachelor / Nontechnical Complementary Courses for Bachelors	DE / EN	Richter	0-TUHH	C	OM	6	Selection out of seperatly published Catalogue				

**Specialisation Computer and Software Engineering** Compulsory Courses: 0 LP Optional Courses: 36 LP

5	Datenbanken / Databases	EN	NN	E-16	EC	CM	6	Y	KL			
5	Einführung in die Nachrichtentechnik und ihre stochastischen Methoden / Introduction to Communications and Random Processes	DE / EN	Prof. Bauch	E-8	EC	CM	6	Y	KL			
5	Kombinatorische Strukturen und Algorithmen / Combinatorial Structures and Algorithms	DE / EN	Prof. Taraz	E-10	EC	CM	6	Y	MP			
5	Quantenmechanik für Studierende der Ingenieurwissenschaften / Quantum Mechanics for Engineers	DE	Prof. Hansen	0-UNIHH	EC	CM	6	Y	KL	N	SA	0
5	Rechnerarchitektur / Computer Architecture	DE / EN	Prof. Falk	E-13	EC	CM	6	Y	KL	N	FFST	15
5	Rechnergestützte Geometrie / Computational Geometry	DE	Dr. Batra	E-19	EC	CM	6	Y	MP			
5	Verteilte Systeme / Distributed Systems	DE	Prof. Turau	E-17	EC	CM	6	Y	KL			
6	Compilerbau / Compiler Construction	EN	Prof. Schupp	E-16	EC	CM	6	Y	FFA			
6	Einführung in Medizintechnische Systeme / Introduction into Medical Technology and Systems	DE	Prof. Schlaefer	E-1	EC	CM	6	Y	KL	Y	SA	10
										Y	RE	10
6	Eingebettete Systeme / Embedded Systems	EN	Prof. Falk	E-13	EC	CM	6	Y	KL	Y	FFST	10
6	Labor Cyber-Physical Systems / Lab Cyber-Physical Systems	DE / EN	Prof. Falk	E-13	EC	CM	6	Y	SA			
6	Softwareentwicklung / Software Development	EN	Prof. Schupp	E-16	EC	CM	6	Y	FFA			

**Specialisation Computational Mathematics** Compulsory Courses: 0 LP Optional Courses: 36 LP

5	Einführung in die Nachrichtentechnik und ihre stochastischen Methoden / Introduction to Communications and Random Processes	DE / EN	Prof. Bauch	E-8	EC	CM	6	Y	KL			
5	Grundlagen der Regelungstechnik / Introduction to Control Systems	DE	Prof. Werner	E-14	EC	CM	6	Y	KL			
5	Kombinatorische Strukturen und Algorithmen / Combinatorial Structures and Algorithms	DE / EN	Prof. Taraz	E-10	EC	CM	6	Y	MP			
5	Numerische Mathematik I / Numerical Mathematics I	DE / EN	Prof. Le Borne	E-10	EC	CM	6	Y	KL			

		Module						Exami nation			Course Work		
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5	Quantenmechanik für Studierende der Ingenieurwissenschaften / Quantum Mechanics for Engineers	DE	Prof. Hansen	0-UNIHH	EC	CM	6	Y	KL	N	SA	0	
5	Rechnergestützte Geometrie / Computational Geometry	DE	Dr. Batra	E-19	EC	CM	6	Y	MP				
6	Algebraische Methoden in der Regelungstechnik / Algebra and Control	DE / EN	Dr. Batra	E-19	EC	CM	6	Y	MP				
6	Löser für schwachbesetzte lineare Gleichungssysteme / Solvers for Sparse Linear Systems	DE / EN	Prof. Le Borne	E-10	EC	CM	6	Y	MP				
6	Mathematik IV / Mathematics IV	DE	Prof. Taraz	0-UNIHH	EC	CM	6	Y	KL				
<b>Thesis</b> Compulsory Courses: 12 LP Optional Courses: 0 LP													
6	Bachelorarbeit / Bachelor Thesis		Professoren der TUHH	0-TUHH	C	CM	12	Y	AB				

#### Explanation:

<sup>1</sup>C=Compulsory, EC=Elective Compulsory

<sup>2</sup>CM=Compulsory Defined Module, OM=Optional Defined Module

<sup>3</sup>KL=Written exam, SA=Written elaboration, FFA=Subject theoretical and practical work, FFST=Subject theoretical and practical work, MP=Oral exam, RE=Presentation, ÜA=Exercices, AB=Thesis, SA lt. FPrO=Written elaboration (accord. to Internship Regulations)

<sup>4</sup>CP=Credit Points

<sup>5</sup>VL=Lecture, SE=Seminar, UE=Recitation Section (small), PBL=Project-/problem-based Learning, PR=Practical Course, PS=Project Seminar, HÜ=Recitation Section (large)

<sup>6</sup>DE=German, EN=English, DE/EN=German and English

<sup>7</sup>SWS=Contact hours