

Exclosure to Subject Specific Regulations
 from 18.03.2020
 for Bachelor-Programme Data Science
 at TUHH
 Programme Director: Prof. Tobias Knopp
 Total: 180 CP
 Number of Specilisations to choose: 2

Course Scheme Bachelor Data Science (DSBS)

Consolidated Version
 for Study Cohort: WiSe22/23
 en_head_sda
 and Approval of Chair from:
 04.05.2022
 In Force on: 01.10.2022
 Out of Force on: 31.03.2027

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

Re-com. Term	Module						Examination			Course Work		
	Module Name (German / English)	Language	ModuleResponsability	Institute	C/EC (1)	CM/OM (2)	CP (4)	Grade	Examination Form(3)	Compulsory	Course Work Type	Bonus (in %)
Core Qualification Compulsory Courses: 150 LP Optional Courses: 0 LP												
1	Diskrete Algebraische Strukturen / Discrete Algebraic Structures	DE / EN	Prof. Zimmermann	E-13	C	CM	6	Y	KL			
1	Einführung in Data Science / Introduction to Data Science	DE	Prof. Knopp	E-5	C	CM	6	N	RE			
1	Mathematik I (EN) / Mathematics I (EN)	EN	Prof. Ruprecht	E-10	C	CM	8	Y	KL	Y	ÜA	10
1	Prozedurale Programmierung für Informatiker / Procedural Programming for Computer Engineers	DE / EN	Prof. Renner	E-24	C	CM	6	Y	KL			
2	Automatentheorie und Formale Sprachen / Automata Theory and Formal Languages	EN	Prof. Mnich	E-11	C	CM	6	Y	KL			
2	Grundlagen der Betriebswirtschaftslehre / Foundations of Management	DE	Prof. Ihl	W-11	C	CM	6	Y	FFA			
2	Mathematik II (EN) / Mathematics II (EN)	EN	Prof. Ruprecht	E-10	C	CM	8	Y	KL	Y	ÜA	10
2	Programmierparadigmen / Programming Paradigms	DE / EN	NN	SD-E	C	CM	6	Y	KL			
2	Stochastik / Stochastics	DE / EN	Prof. Schulte	E-10	C	CM	6	Y	KL			
3	Algorithmen und Datenstrukturen / Algorithms and Data Structures	DE / EN	Prof. Mnich	E-11	C	CM	6	Y	KL			
3	Datenbanken / Databases	EN	Prof. Schulte	E-19	C	CM	6	Y	KL			
3	Mathematik III (EN) / Mathematics III (EN)	EN	Prof. Taraz	0-UNIHH-M	C	CM	8	Y	KL			
3	Numerische Mathematik I / Numerical Mathematics I	EN	Prof. Le Borne	E-10	C	CM	6	Y	KL			
3	Statistik / Statistics	DE / EN	Prof. Schulte	E-10	C	CM	6	Y	KL			
4	Graphentheorie und Optimierung / Graph Theory and Optimization	DE / EN	Prof. Taraz	E-10	C	CM	6	Y	KL			
4	Maschinelles Lernen I / Machine Learning I	DE / EN	Prof. Ay	SD-E	C	CM	6	Y	KL	N	ÜA	20

		Module					Examination			Course Work		
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4	Seminare Informatik / Seminars Computer Science	DE / EN	Dozenten des SD E	SD-E	C	CM	6	N	RE			
4	Signale und Systeme / Signals and Systems	DE / EN	Prof. Bauch	E-8	C	CM	6	Y	KL			
4	Wissenschaftliche Programmierung / Scientific Programming	DE / EN	Prof. Knopp	E-5	C	CM	6	Y	FFA			
5	Data Mining / Data Mining	EN	Prof. Schulte	E-19	C	CM	6	Y	KL	Y	FFST	20
5	Einführung in die Informationssicherheit / Introduction to Information Security	EN	Prof. Scandariato	E-22	C	CM	6	Y	KL			
5	Maschinelles Lernen II / Machine Learning II	DE / EN	Prof. Ay	E-21	C	CM	6	Y	KL	N	ÜA	20
6	Ethik in der Informationstechnologie / Ethics in Information Technology	DE / EN	NN	SD-W	C	CM	6	Y	FFA			
1-6	Nichttechnische Angebote im Bachelor / Non-technical Courses for Bachelors	DE / EN	Richter	0-TUHH	C	OM	6	Selection out of seperatly published Catalogue				

Specialisation I. Mathematics/Computer Science Compulsory Courses: 0 LP Optional Courses: 12 LP

5	Bildverarbeitung / Image Processing	DE / EN	Prof. Knopp	E-5	EC	CM	6	Y	KL			
5	Einführung in die Datenerfassung und Datenverarbeitung / Introduction to Data Acquisition and Processing	DE	Prof. Schlaefer	E-1	EC	CM	6	Y	KL	Y	RE	0
										Y	ÜA	10
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	Funktionales Programmieren / Functional Programming	EN	Prof. Schupp	E-16	EC	CM	6	Y	KL	Y	ÜA	15
5	Kombinatorische Strukturen und Algorithmen / Combinatorial Structures and Algorithms	DE / EN	Prof. Taraz	E-10	EC	CM	6	Y	MP			
5	Rechnernetze und Internet-Sicherheit / Computernetworks and Internet Security	EN	Prof. Timm-Giel	E-4	EC	CM	6	Y	KL			
5	Technische Informatik / Computer Engineering	DE / EN	Prof. Falk	E-13	EC	CM	6	Y	KL	Y	ÜA	10
6	Berechenbarkeit und Komplexität / Computability and Complexity Theory	DE / EN	NN	E-13	EC	CM	6	Y	KL			
6	Löser für schwachbesetzte lineare Gleichungssysteme / Solvers for Sparse Linear Systems	EN	Prof. Le Borne	E-10	EC	CM	6	Y	MP			
6	Mathematik IV (EN) / Mathematics IV (EN)	EN	Prof. Taraz	0-UNIHH-M	EC	CM	6	Y	KL			
6	Software-Engineering / Software Engineering	EN	Prof. Schupp	E-16	EC	CM	6	Y	KL	Y	ÜA	15

Specialisation II. Application Compulsory Courses: 0 LP Optional Courses: 6 LP

		Module					Examination			Course Work		
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5	Grundlagen der Regelungstechnik / Introduction to Control Systems	DE	Prof. Werner	E-14	EC	CM	6	Y	KL			
5	Technische Mechanik I (Stereostatik) / Engineering Mechanics I (Stereostatics)	DE	Prof. Kriegesmann	M-24	EC	CM	6	Y	KL			
5-6	Grundlagen der Werkstoffwissenschaften / Fundamentals of Materials Science	DE	Prof. Weißmüller	M-22	EC	CM	6	Y	KL			
6	Einführung in die Elektrotechnik (Technomathematik) / Introduction to Electrical Engineering (Technomathematics)	DE	Prof. Kautz	ZLL	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	Logistikmanagement / Logistics Management	DE	Dr. Schröder	W-2	EC	CM	6	Y	KL	N	FFST	20
6	MED I: Einführung in die Anatomie / MED I: Introduction to Anatomy	DE	Prof. Schumacher	M-3	EC	CM	3	Y	KL			
6	MED I: Einführung in die Radiologie und Strahlentherapie / MED I: Introduction to Radiology and Radiation Therapy	DE	Prof. Carl	M-3	EC	CM	3	Y	KL			
Thesis Compulsory Courses: 12 LP Optional Courses: 0 LP												
6	Bachelorarbeit / Bachelor Thesis		Professoren der TUHH	0-TUHH	C	CM	12	Y	AB			

Explanation:

¹C=Compulsory, EC=Elective Compulsory

²CM=Compulsory Defined Module, OM=Optional Defined Module

³KL=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

⁴CP=Credit Points

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

⁶DE=German, EN=English, DE/EN=German and English

⁷SWS=Contact hours