

Exclosure to Subject Specific Regulations
 from 25.07.2018
 for Master-Programme Informatik-
 Ingenieurwesen
 at TUHH dual study program
 Programme Director: Prof. Görschwin Fey
 Total: 150 CP
 Number of Specilisations to choose: 4



Course Scheme Master Computer Science in Engineering (IIWMS) dual study program

Consolidated Version
 for Study Cohort: WiSe22/23
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 and Approval of Chair from:
 21.06.2023
 Replaces Version from: 15.03.2023
 In Force on: 01.10.2023
 Out of Force on: 30.09.2025

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: 54 LP Optional Courses: 0 LP												
1	Praxismodul 1 im dualen Master / Practical module 1 (dual study program, Master's degree)	DE	Dr. Haschke	0-SLS	C	CM	10	N	SA			
2	Praxismodul 2 im dualen Master / Practical module 2 (dual study program, Master's degree)	DE	Dr. Haschke	0-SLS	C	CM	10	N	SA			
3	Forschungsprojekt / Research Project	DE / EN	Prof. Fey	SD-E	C	CM	12	Y	STA			
3	Praxismodul 3 im dualen Master / Practical module 3 (dual study program, Master's degree)	DE	Dr. Haschke	0-SLS	C	CM	10	N	SA			
1-3	Theorie-Praxis-Verzahnung im dualen Master / Linking theory and practice (dual study program, Master's degree)	DE	Dr. Haschke	0-SLS	C	CM	6	N	SA			
1-3	Betrieb & Management / Business & Management	DE / EN	Prof. Meyer	W-1	C	OM	6	Selection out of seperatly published Catalogue				
Specialisation I. Computer Science Compulsory Courses: 0 LP Optional Courses: 18 LP												
1	Sicherheit von Cyber-physischen Systemen / Security of Cyber-Physical Systems	EN	Prof. Fröschle	E-15	EC	CM	6	Y	KL	N	ÜA	10
1	Software-Sicherheit / Software Security	EN	Prof. Scandariato	E-22	EC	CM	6	Y	KL			
1	Softwareverifikation / Software Verification	EN	Prof. Schupp	E-16	EC	CM	6	Y	KL	Y	ÜA	15
2	Advanced Internet Computing / Advanced Internet Computing	EN	Prof. Schulte	E-19	EC	CM	6	Y	FFA			
2	Algorithmische Spieltheorie / Algorithmic Game Theory	DE / EN	Prof. Mnich	E-11	EC	CM	6	Y	KL			
2	Autonomous Cyber-Physical Systems / Autonomous Cyber-Physical Systems	EN	Prof. Renner	E-24	EC	CM	6	Y	KL	N	TE	10
2	Constraint Satisfaction Problems / Constraint Satisfaction Problems	EN	Prof. Mottet	E-EXK6	EC	CM	6	Y	MP			

		Module					Examination			Course Work		
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2	Entwurf von Dependable Systems / Design of Dependable Systems	DE / EN	Prof. Fey	E-13	EC	CM	6	Y	MP	Y	FFST	0
3	Kommunikationsnetze / Communication Networks	EN	Prof. Timm-Giel	E-4	EC	CM	6	Y	RE			
3	Massiv parallele Systeme: Architektur und Programmierung / Massively Parallel Systems: Architecture and Programming	EN	Prof. Lal	E-EXK5	EC	CM	6	Y	MP	Y	FFST	20
3	Medizinische Bildgebung / Medical Imaging	DE / EN	Prof. Knopp	E-5	EC	CM	6	Y	KL			
Specialisation II. Engineering Science Compulsory Courses: 0 LP Optional Courses: 12 LP												
1	Digitale Nachrichtenübertragung / Digital Communications	DE / EN	Prof. Bauch	E-8	EC	CM	6	Y	KL	Y	SA	0
1	Elektrische Energiesysteme II: Betrieb und Informationssysteme elektrischer Energienetze / Electrical Power Systems II: Operation and Information Systems of Electrical Power Grids	DE	Prof. Becker	E-6	EC	CM	6	Y	MP			
2	Informationstheorie und Codierung / Information Theory and Coding	EN	Prof. Bauch	E-8	EC	CM	6	Y	KL			
2	Intelligente Systeme Projekt / Intelligent Systems Lab	DE / EN	Prof. Schlaefer	E-1	EC	CM	6	Y	SA	Y	GD	0
2	Maschinelles Lernen in der Elektro- und Informationstechnik / Machine Learning in Electrical Engineering and Information Technology	EN	Prof. Bauch	E-8	EC	CM	6	Y	MP			
3	Digitale Signalverarbeitung und Digitale Filter / Digital Signal Processing and Digital Filters	EN	Prof. Bauch	E-8	EC	CM	6	Y	KL			
Specialisation III. Mathematics Compulsory Courses: 0 LP Optional Courses: 12 LP												
1	Lineare und Nichtlineare Optimierung / Linear and Nonlinear Optimization	DE / EN	Prof. Mnich	E-11	EC	CM	6	Y	KL			
1	Mathematische Bildverarbeitung / Mathematical Image Processing	DE / EN	Prof. Lindner	E-10	EC	CM	6	Y	MP			
2	Numerische Mathematik II / Numerical Mathematics II	DE / EN	Prof. Le Borne	E-10	EC	CM	6	Y	MP			
2	Randomisierte Algorithmen und Zufällige Graphen / Randomised Algorithms and Random Graphs	DE / EN	Prof. Taraz	E-10	EC	CM	6	Y	MP			
3	Fortgeschrittenes maschinelles Lernen / Advanced Machine Learning	DE / EN	Dr. Zemke	E-10	EC	CM	6	Y	KL			
Specialisation IV. Subject Specific Focus Compulsory Courses: 0 LP Optional Courses: 24 LP												

Module							Examination			Course Work		
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2	Technischer Ergänzungskurs I für IIW / Technical Complementary Course I for Computational Science and Engineering		Prof. Fey	SD-E	EC	OM	12	according to Subject Specific Regulations				
3	Technischer Ergänzungskurs II für IIW / Technical Complementary Course II for Computational Science and Engineering		Prof. Fey	SD-E	EC	OM	12	according to Subject Specific Regulations				
Thesis Compulsory Courses: 30 LP Optional Courses: 0 LP												
4	Masterarbeit im dualen Studium / Master thesis (dual study program)		Professoren der TUHH	0-TUHH	C	CM	30	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, GD=Group discussion, STA=Study work, ÜA=Exercices,

AB=Thesis, SA lt. FPRO=Written elaboration (accord. to Internship Regulations), IE=Attestation

⁴CP=Credit Points

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

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

⁷SWS=Contact hours