

Exclosure to Subject Specific Regulations  
 from 25.07.2018  
 for Master-Programme  
 Information and Communication Systems  
 at TUHH  
 Programme Director: Prof. Andreas Timm-  
 Giel  
 Total: 120 CP  
 Number of Specialisations to choose: 1



# Course Scheme Master Information and Communication Systems (IMPICS)

Consolidated Version  
 for Study Cohort: WiSe19/20  
 en\_head\_sda  
 and Approval of Chair from:  
 30.04.2020  
 Replaces Version from: 20.03.2019  
 In Force on: 01.10.2020  
 Out of Force on: 30.09.2022

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

		Module						Examination			Course Work		
Re-com. Term	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 %)	
<b>Core qualification</b> Compulsory Courses: 48 LP Optional Courses: 0 LP													
2	Informationstheorie und Codierung / Information Theory and Coding	DE / EN	Prof. Bauch	E-8	C	CM	6	Y	KL				
2	Technischer Ergänzungskurs für IMPICS (laut FSPO) / Technical Complementary Course for IMPICS (according to Subject Specific Regulations)		Prof. Timm-Giel	E-4	C	OM	12	according to Subject Specific Regulations					
3	Forschungsprojekt und Seminar / Research Project and Seminar	DE / EN	Prof. Zimmermann	SD-E	C	CM	18	Y	STA				
1-3	Betrieb & Management / Business & Management	DE / EN	Prof. Meyer	W-1	C	OM	6	Selection out of seperatly published Catalogue					
1-3	Nichttechnische Angebote im Master / Non-technical Courses for Master (lt. letzter PO Nichttechnische Ergänzungskurse im Master)	DE / EN	Richter	0-TUHH	C	OM	6	Selection out of seperatly published Catalogue					
<b>Specialisation Communication Systems</b> Compulsory Courses: 6 LP Optional Courses: 12 LP Number of Focuses to choose: 2													
1	Digitale Nachrichtenübertragung / Digital Communications	DE / EN	Prof. Bauch	E-8	C	CM	6	Y	KL	Y	SA	0	
1	Hochfrequenztechnik / Microwave Engineering	DE / EN	Prof. Jacob	E-3	EC	CM	6	Y	KL	Y	FFST	0	
1	Kommunikationsnetze / Communication Networks	EN	Prof. Timm-Giel	E-4	EC	CM	6	Y	RE				
1	Moderne Funkssysteme / Modern Wireless Systems	EN	Dr. Grünheid	E-8	EC	CM	6	Y	MP	Y	FFST	0	
2	Simulation von Kommunikationsnetzen / Simulation of Communication Networks	EN	Prof. Timm-Giel	E-4	EC	CM	6	Y	MP				
2	Weiterführende Konzepte der drahtlosen Kommunikation / Advanced Concepts of Wireless Communications	EN	Dr. Grünheid	E-8	EC	CM	6	Y	KL				

		Module					Examination			Course Work		
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<b>Focus Software</b> Compulsory Courses: 0 LP Optional Courses: 12 LP												
1	Softwareanalyse / Software Analysis	EN	Prof. Schupp	E-16	EC	CM	6	Y	FFA			
1	Softwareverifikation / Software Verification	EN	Prof. Schupp	E-16	EC	CM	6	Y	KL	Y	ÜA	15
2	Anwendungssicherheit / Application Security	EN	Prof. Gollmann	E-15	EC	CM	6	Y	KL			
2	Modellprüfung - Beweiser und Algorithmen / Model Checking - Proof Engines and Algorithms	DE / EN	Prof. Fey	E-13	EC	CM	6	Y	MP			
2	Software für Eingebettete Systeme / Software for Embedded Systems	DE / EN	Prof. Turau	E-17	EC	CM	6	Y	KL			
2	Softwaretesten / Software Testing	EN	Prof. Schupp	E-16	EC	CM	6	Y	FFA			
<b>Focus Signal Processing</b> Compulsory Courses: 0 LP Optional Courses: 12 LP												
1	Digitale Audiosignalverarbeitung / Digital Audio Signal Processing	EN	Prof. Zölzer	E-8	EC	CM	6	Y	KL			
1	Digitale Bildanalyse / Digital Image Analysis	EN	Prof. Grigat	E-2	EC	CM	6	Y	KL			
1	Digitale Signalverarbeitung und Digitale Filter / Digital Signal Processing and Digital Filters	EN	Prof. Bauch	E-8	EC	CM	6	Y	KL			
2	Computer-Grafik / Computer Graphics	EN	Prof. Knopp	E-5	EC	CM	6	Y	KL			
2	Drahtlose Sensornetze / Wireless Sensor Networks	EN	Prof. Renner	E-EXK2	EC	CM	6	Y	MP			
2	Mustererkennung und Datenkompression / Pattern Recognition and Data Compression	EN	Prof. Grigat	E-2	EC	CM	6	Y	KL			
3	3D Computer Vision / 3D Computer Vision	EN	Prof. Grigat	E-2	EC	CM	6	Y	KL			
<b>Specialisation Secure and Dependable IT Systems</b> Compulsory Courses: 6 LP Optional Courses: 12 LP Number of Focuses to choose: 2												
1	Softwareverifikation / Software Verification	EN	Prof. Schupp	E-16	C	CM	6	Y	KL	Y	ÜA	15
1	Software-Sicherheit / Software Security	EN	Prof. Gollmann	E-15	EC	CM	6	Y	KL			
2	Anwendungssicherheit / Application Security	EN	Prof. Gollmann	E-15	EC	CM	6	Y	KL			
2	Entwurf von Dependable Systems / Design of Dependable Systems	DE / EN	Prof. Fey	E-13	EC	CM	6	Y	MP	N	ÜA	0
2	Modellprüfung - Beweiser und Algorithmen / Model Checking - Proof Engines and Algorithms	DE / EN	Prof. Fey	E-13	EC	CM	6	Y	MP			
2	Netzwerk-Sicherheit / Network Security	EN	Prof. Gollmann	E-15	EC	CM	6	Y	KL			
<b>Focus Networks</b> 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

		Module					Examination			Course Work		
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1	Kommunikationsnetze / Communication Networks	EN	Prof. Timm-Giel	E-4	EC	CM	6	Y	RE			
2	Simulation von Kommunikationsnetzen / Simulation of Communication Networks	EN	Prof. Timm-Giel	E-4	EC	CM	6	Y	MP			
3	Traffic Engineering / Traffic Engineering	EN	Prof. Timm-Giel	E-4	EC	CM	6	Y	MP			
<b>Focus Software and Signal Processing</b> Compulsory Courses: 0 LP Optional Courses: 12 LP												
1	Digitale Audiosignalverarbeitung / Digital Audio Signal Processing	EN	Prof. Zölzer	E-8	EC	CM	6	Y	KL			
1	Digitale Bildanalyse / Digital Image Analysis	EN	Prof. Grigat	E-2	EC	CM	6	Y	KL			
1	Softwareanalyse / Software Analysis	EN	Prof. Schupp	E-16	EC	CM	6	Y	FFA			
2	Computer-Grafik / Computer Graphics	EN	Prof. Knopp	E-5	EC	CM	6	Y	KL			
2	Mustererkennung und Datenkompression / Pattern Recognition and Data Compression	EN	Prof. Grigat	E-2	EC	CM	6	Y	KL			
2	Software für Eingebettete Systeme / Software for Embedded Systems	DE / EN	Prof. Turau	E-17	EC	CM	6	Y	KL			
2	Softwaretesten / Software Testing	EN	Prof. Schupp	E-16	EC	CM	6	Y	FFA			
3	3D Computer Vision / 3D Computer Vision	EN	Prof. Grigat	E-2	EC	CM	6	Y	KL			
<b>Thesis</b> Compulsory Courses: 30 LP Optional Courses: 0 LP												
4	Masterarbeit / Master Thesis		Professoren der TUHH	0-TUHH	C	CM	30	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, STA=Study work, ÜA=Exercices, AB=Thesis

<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, PK=Projection Course, HÜ=Recitation Section (large)

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

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