

Exclosure to Subject Specific Regulations  
 from 25.07.2018  
 for Master-Programme  
 Microelectronics and Microsystems  
 at TUHH  
 Programme Director: Prof. Hoc Khiem Trieu  
 Total: 120 CP  
 Number of Specilisations to choose: 1

# Course Scheme Master Microelectronics and Microsystems (IMPMM)

Consolidated Version  
 for Study Cohort: WiSe20/21  
 en\_head\_sda  
 and Approval of Chair from:  
 19.05.2021  
 Replaces Version from: 18.03.2020  
 In Force on: 01.10.2018  
 Out of Force on: 30.09.2023

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 %)
<b>Core Qualification</b> Compulsory Courses: 30 LP Optional Courses: 42 LP												
1	Digitale Nachrichtenübertragung / Digital Communications	DE / EN	Prof. Bauch	E-8	EC	CM	6	Y	KL	Y	SA	0
1	Entwurf Integrierter Schaltungen / Integrated Circuit Design	EN	Prof. Kuhl	E-9	EC	CM	6	Y	KL			
1	Mikrosystemtechnik / Microsystem Engineering	EN	Prof. Kasper	E-7	EC	CM	6	Y	KL	N	RE	10
1	Mikrosystemtechnologie in Theorie und Praxis / Microsystems Technology in Theory and Practice	EN	Prof. Trieu	E-7	EC	CM	6	Y	MP	Y	FFST	0
1	Technischer Ergänzungskurs für IMPMM - Bereich ET (laut FSPO) / Technical Elective Complementary Course for IMPMM - field ET (according to Subject Specific Regulations)		Prof. Trieu	E-7	EC	OM	6	according to Subject Specific Regulations				
2	Erweiterter IC-Entwurf / Advanced IC Design	EN	Prof. Kuhl	E-9	EC	CM	6	Y	KL			
2	Halbleitertechnologie / Semiconductor Technology	DE / EN	Prof. Trieu	E-7	EC	CM	6	Y	MP			
2	Mikrosystementwurf / Microsystem Design	EN	Prof. Kasper	E-7	EC	CM	6	Y	MP	Y	SA	0
2	Technischer Ergänzungskurs für IMPMM - Bereich TUHH (laut FSPO) / Technical Elective Complementary Course for IMPMM - field TUHH (according to Subject Specific Regulations)		Prof. Trieu	E-7	EC	OM	6	according to Subject Specific Regulations				
3	Projektarbeit IMPMM / Project Work IMPMM		NN	E-9	C	CM	16	Y	STA			
3	Seminar für IMPMM / Seminar for IMPMM	EN	Prof. Trieu	E-7	C	CM	2	Y	RE			
1-3	Nichttechnische Angebote im Master / Non-technical Courses for Master	DE / EN	Richter	0-TUHH	C	OM	6	Selection out of seperatly published Catalogue				
1-3	Betrieb & Management / Business & Management	DE / EN	Prof. Meyer	W-1	C	OM	6	Selection out of seperatly published Catalogue				
<b>Specialisation Communication and Signal Processing</b> Compulsory Courses: 0 LP Optional Courses: 18 LP												
1	Hochfrequenztechnik / Microwave Engineering	DE / EN	Prof. Kölpin	E-3	EC	CM	6	Y	KL	Y	FFST	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	Weiterführende Konzepte der drahtlosen Kommunikation / Advanced Concepts of Wireless Communications	EN	Dr. Grünheid	E-8	EC	CM	6	Y	KL			
3	Ausgewählte Aspekte der Kommunikation und Signalverarbeitung / Selected Aspects of Communication and Signal Processing	EN	Prof. Trieu	SD-E	EC	CM	6	Y	MP			
3	Bildverarbeitung / Image Processing	DE / EN	Prof. Knopp	E-5	EC	CM	6	Y	KL			
3	COSIMA (Competition in Microsystem Application) / COSIMA (Competition in Microsystem Application)		Prof. Trieu	E-7	EC	CM	6	Y	FFA			
3	Digitale Audiosignalverarbeitung / Digital Audio Signal Processing	EN	Prof. Zölzer	E-8	EC	CM	6	Y	KL			
3	Digitale Bildanalyse / Digital Image Analysis	EN	Prof. Grigat	E-2	EC	CM	6	Y	KL			
3	Digitale Signalverarbeitung und Digitale Filter / Digital Signal Processing and Digital Filters	EN	Prof. Bauch	E-8	EC	CM	6	Y	KL			
3	Medizinische Bildgebung / Medical Imaging	DE / EN	Prof. Knopp	E-5	EC	CM	6	Y	KL			

**Specialisation Embedded Systems** Compulsory Courses: 0 LP Optional Courses: 18 LP

1	Rechnerarchitektur / Computer Architecture	DE / EN	Prof. Falk	E-13	EC	CM	6	Y	KL	N	FFST	15
2	Eingebettete Systeme / Embedded Systems	EN	Prof. Falk	E-13	EC	CM	6	Y	KL	Y	FFST	10
2	Entwurf von Dependable Systems / Design of Dependable Systems	DE / EN	Prof. Fey	E-13	EC	CM	6	Y	MP	Y	FFST	0
2	Software für Eingebettete Systeme / Software for Embedded Systems	DE / EN	Prof. Renner	E-EXK2	EC	CM	6	Y	KL			
3	Ausgewählte Aspekte Eingebetteter Systeme / Selected Aspects of Embedded Systems	EN	Prof. Trieu	SD-E	EC	CM	6	Y	MP			
3	Fortgeschrittener Entwurf von Chip-Systemen (Praktikum) / Advanced System-on-Chip Design (Lab)	DE / EN	Prof. Falk	E-13	EC	CM	6	N	FFA			
3-4	Entwurf Digitaler Schaltungen / Digital Circuit Design	EN	Prof. Kuhl	E-9	EC	CM	6	Y	MP			

**Specialisation Microelectronics Complements** Compulsory Courses: 0 LP Optional Courses: 18 LP

1	Medizinelektronik / Electronic Circuits for Medical Applications	EN	Prof. Kuhl	E-9	EC	CM	6	Y	KL	Y	FFST	0
										N	ÜA	0
1	Silizium Photonik / Silicon Photonics	EN	Dr. Lipka	E-7	EC	CM	6	Y	MP			
1-2	Entwurf Digitaler Schaltungen / Digital Circuit Design	EN	Prof. Kuhl	E-9	EC	CM	6	Y	MP			

		Module					Examination			Course Work		
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2	EMV I: Kopplungen, Gegenmaßnahmen und Prüfverfahren / EMC I: Coupling Mechanisms, Countermeasures and Test Procedures	DE / EN	Prof. Schuster	E-18	EC	CM	6	Y	MP	Y	RE	0
2	Faseroptik und Integrierte Optik / Fibre and Integrated Optics	EN	Prof. Eich	E-12	EC	CM	4	Y	KL			
2	Optoelektronik I - Wellenoptik / Optoelectronics I - Wave Optics	EN	Prof. Eich	E-12	EC	CM	4	Y	KL			
2	Praktischer Schaltungsentwurf - Digital / Laboratory: Digital Circuit Design	EN	Prof. Kuhl	E-9	EC	CM	6	Y	FFA			
3	Ausgewählte Aspekte der Mikroelektronik und Mikrosysteme / Selected Aspects of Microelectronics and Microsystems	EN	Prof. Trieu	SD-E	EC	CM	6	Y	MP			
3	COSIMA (Competition in Microsystem Application) / COSIMA (Competition in Microsystem Application)		Prof. Trieu	E-7	EC	CM	6	Y	FFA			
3	EMV II: Signalintegrität und Spannungsversorgung elektronischer Systeme / EMC II: Signal Integrity and Power Supply of Electronic Systems	DE / EN	Prof. Schuster	E-18	EC	CM	6	Y	MP	Y	RE	0
3	Mixed-signal Schaltungsentwurf / Mixed-signal Circuit Design	EN	Prof. Kuhl	E-9	EC	CM	6	Y	KL	Y	FFST	5
3	Optoelektronik II - Quantenoptik / Optoelectronics II - Quantum Optics	EN	Dr. Petrov	E-12	EC	CM	4	Y	KL			
3	Praktischer Schaltungsentwurf - Analog / Laboratory: Analog Circuit Design	EN	Prof. Kuhl	E-9	EC	CM	6	Y	FFA			
<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, FFST=Subject theoretical and practical work, FFA=Subject theoretical and practical work, MP=Oral exam, RE=Presentation, STA=Study work, ÜA=Exercises, AB=Thesis, SA It.

<sup>4</sup>PRO=Written elaboration (accord. to Internship Regulations)

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

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

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

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