

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: WiSe19/20
 en_head_sda
 and Approval of Chair from:
 28.10.2020
 Replaces Version from: 20.03.2019
 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 %) | |
| Core Qualification Compulsory Courses: 28 LP Optional Courses: 44 LP | | | | | | | | | | | | | |
| 1 | CMOS-Nanoelektronik mit Praktikum / CMOS Nanoelectronics with Practice | EN | Prof. Kuhl | E-9 | EC | CM | 6 | Y | KL | Y | FFST | 0 | |
| 1 | Elektronische Bauelemente und Schaltungen / Electronic Devices and Circuits | 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 | |
| 2 | Grundlagen des IC-Entwurfes / Fundamentals of IC Design | DE / EN | Prof. Kuhl | E-9 | EC | CM | 6 | Y | KL | | | | |
| 2 | Halbleiterseminar / Semiconductor Seminar | EN | Prof. Kuhl | E-9 | EC | CM | 2 | Y | RE | | | | |
| 2 | Mikrosystementwurf / Microsystem Design | EN | Prof. Kasper | E-7 | EC | CM | 6 | Y | MP | Y | SA | 0 | |
| 2 | Seminar Informationstechnik / Seminar Communications Engineering | DE / EN | Prof. Bauch | E-8 | EC | CM | 2 | Y | RE | Y | SA | 0 | |
| 2 | 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 | | | | | |
| 2-3 | Praktischer Schaltungsentwurf analog und digital / Laboratory: Analog and Digital Circuit Design | DE | Prof. Kuhl | E-9 | EC | CM | 6 | Y | KL | | | | |
| 3 | Projektarbeit IMPMM / Project Work IMPMM | | NN | E-9 | C | CM | 16 | Y | STA | | | | |
| 3 | Praktischer Schaltungsentwurf - Analog / Laboratory: Analog Circuit Design | EN | Prof. Kuhl | E-9 | EC | CM | 6 | Y | FFA | | | | |

| | | Module | | | | | Examination | | | Course Work | | |
|--------------|--|----------|----------------------|-----------|----------|-----------|-------------|--|---------------------|-------------|------------------|-----------|
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| 3 | 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 | | | | |
| 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 | DE / EN | Richter | 0-TUHH | C | OM | 6 | Selection out of seperatly published Catalogue | | | | |

Specialisation Communication and Signal Processing Compulsory Courses: 0 LP Optional Courses: 18 LP

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|---|---|---------|-----------------|-----|----|----|---|---|----|---|------|---|
| 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 | | | |
| 2 | Weiterführende Konzepte der drahtlosen Kommunikation / Advanced Concepts of Wireless Communications | EN | Dr. Grünheid | E-8 | EC | CM | 6 | Y | KL | | | |
| 3 | 3D Computer Vision / 3D Computer Vision | EN | Prof. Grigat | E-2 | EC | CM | 6 | Y | KL | | | |
| 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 | | | |

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

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|-----|--|---------|--------------|--------|----|----|---|---|-----|---|------|----|
| 1 | Rechnerarchitektur / Computer Architecture | DE / EN | Prof. Falk | E-13 | EC | CM | 6 | Y | KL | N | FFST | 15 |
| 2 | Drahtlose Sensornetze / Wireless Sensor Networks | EN | Prof. Renner | E-EXK2 | EC | CM | 6 | Y | MP | | | |
| 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 | N | ÜA | 0 |
| 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 (lt. letzter PO Design von hochkomplexen integrierten Systemen und CAD-Werkzeuge) | EN | Prof. Kuhl | E-9 | EC | CM | 6 | Y | MP | | | |
| 4 | Software für Eingebettete Systeme / Software for Embedded Systems | DE / EN | Prof. Renner | E-EXK2 | EC | CM | 6 | Y | KL | | | |

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

| | | 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 %) |
| 1 | Medizinelektronik / Electronic Circuits for Medical Applications | EN | Prof. Kuhl | E-9 | EC | CM | 6 | Y | KL | Y | FFST | 0 |
| | | | | | | | | | | N | ÜA | 0 |
| 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 | Halbleitertechnologie / Semiconductor Technology | DE / EN | Prof. Trieu | E-7 | EC | CM | 6 | Y | MP | | | |
| 2 | Optoelektronik I - Wellenoptik / Optoelectronics I - Wave Optics | EN | Prof. Eich | E-12 | EC | CM | 4 | Y | KL | | | |
| 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 | Optoelektronik II - Quantenoptik / Optoelectronics II - Quantum Optics | EN | Prof. Eich | E-12 | EC | CM | 4 | Y | KL | | | |
| 3-4 | Entwurf Digitaler Schaltungen / Digital Circuit Design (lt. letzter PO Design von hochkomplexen integrierten Systemen und CAD-Werkzeuge) | EN | Prof. Kuhl | E-9 | EC | CM | 6 | Y | MP | | | |
| Thesis Compulsory Courses: 30 LP Optional Courses: 0 LP | | | | | | | | | | | | |
| 4 | Masterarbeit / Master Thesis | | 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, FFST=Subject theoretical and practical work, FFA=Subject theoretical and practical work, MP=Oral exam, RE=Presentation, STA=Study work, ÜA=Exercices, AB=Thesis

⁴CP=Credit Points

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

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

⁷SWS=Contact hours