

Exclosure to Subject Specific Regulations  
 from 18.07.2018  
 for Master-Programme  
 Mechanical Engineering and Management  
 at TUHH  
 Programme Director: Prof. Dieter Krause  
 Total: 120 CP  
 Number of Specialisations to choose: 2



## Course Scheme Master Mechanical Engineering and Management (IMP MEM)

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

1. Specializations of the study course IMP MEM are divided into two sections. Students have to choose one specialization of the first section ("I Management") and one specialization of the second section ("II Materials", "II Mechatronics" or "II Product Development and Production").
  2. NIT students cannot choose from the first section ("I Management"), they choose instead two specializations from the second section ("II Materials", "II Mechatronics" or "II Product Development and Production").
  3. Students who already had the module "Vibration Theory (GES)" in their bachelor study course are not allowed to enroll for the module mentioned above.
- 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: 42 LP Optional Courses: 12 LP |   |          |                           |           |          |           |             |  |                     |             |                  |              |
| 1   | Computer Aided Design and Computation / Computer Aided Design and Computation   | EN       | Dr. Lippert               | M-16      | C        | CM        | 6           | Y  | KL                  |             |                  |              |
| 1   | Robotik / Robotics  | EN       | Prof. Weltin              | M-24      | C        | CM        | 6           | Y  | KL                  |             |                  |              |
| 1   | Marketing und Kommunikation / Marketing and Communication   | EN       | Prof. Lühthje             | W-3       | EC       | CM        | 6           | Y  | FFA                 |             |                  |              |
| 1-2   | Ausgewählte Themen des Mechanical Engineering and Management (Alternative A: 12 LP) / Selected Topics of Mechanical Engineering and Management (Alternative A: 12 CP) (lt. letzter PO Ausgewählte Themen des Mechanical Engineering and Management) | DE / EN  | Prof. Krause              | M-17      | EC       | OM        | 12          | Selection out of Catalogue below               |                     |             |                  |              |
| 1-2   | Ausgewählte Themen des Mechanical Engineering and Management (Alternative B: 6 LP) / Selected Topics of Mechanical Engineering and Management (Alternative B: 6 CP) (lt. letzter PO)  | DE / EN  | Prof. Krause              | M-17      | EC       | OM        | 6           | Selection out of Catalogue below               |                     |             |                  |              |
| 2   | Faser-Kunststoff-Verbunde / Fibre-polymer-composites  | EN       | Prof. Fiedler             | M-11      | C        | CM        | 6           | Y  | KL                  |             |                  |              |
| 2   | Industriepraktikum MEM / Internship MEM   |          | Prof. Krause              | M-17      | EC       | CM        | 6           | N  | SA lt. FPrO         |             |                  |              |
| 3   | Studienarbeit IMP MEM / Research Project IMP MEM  |          | Dozenten des Studiengangs | SD-M      | C        | CM        | 12          | Y  | STA                 |             |                  |              |
| 1-3   | Betrieb & Management / Business & Management  | DE / EN  | Prof. Meyer               | W-1       | C        | OM        | 6           | Selection out of seperatly published 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 %) |
| 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 |                     |             |                  |              |

**Specialisation Management** Compulsory Courses: 0 LP Optional Courses: 18 LP

|   |   |         |                |      |    |    |   |   |     |   |      |    |
|---|---|---------|----------------|------|----|----|---|---|-----|---|------|----|
| 1 | Technologiemanagement / Technology Management   | EN      | Prof. Herstatt | W-7  | EC | CM | 6 | Y | KL  |   |      |    |
| 2 | Gütermobilität und Logistiksysteme / Mobility of Goods and Logistics Systems  | EN      | Prof. Flämig   | W-8  | EC | CM | 6 | Y | KL  | Y | EX   | 0  |
|   |   |         |                |      |    |    |   |   |     | Y | ÜA   | 0  |
| 2 | International Production Management and Enterprise Resource Planning: CERMEDES AG / International Production Management and Enterprise Resource Planning: CERMEDES AG | EN      | Prof. Ringle   | W-9  | EC | CM | 6 | Y | SA  | Y | RE   | 0  |
|   |   |         |                |      |    |    |   |   |     | Y | SA   | 0  |
| 2 | Marketing (Vertrieb und Services / Innovationsmarketing) / Marketing (Sales and Services / Innovation Marketing)  | EN      | Prof. Lühje    | W-3  | EC | CM | 6 | Y | FFA |   |      |    |
| 2 | Quantitative Forschungsmethoden / Quantitative Research Methods   | EN      | Prof. Ringle   | W-9  | EC | CM | 6 | Y | SA  |   |      |    |
| 2 | Technology Entrepreneurship / Technology Entrepreneurship   | EN      | Prof. Ihl      | W-11 | EC | CM | 6 | Y | FFA |   |      |    |
| 2 | Volkswirtschaftslehre und Außenwirtschaftslehre / Economics   | EN      | Prof. Fischer  | W-4  | EC | CM | 6 | Y | KL  | Y | ÜA   | 5  |
| 3 | Angewandte Statistik für Ingenieure / Applied Statistics  | DE / EN | Prof. Morlock  | M-3  | EC | CM | 6 | Y | KL  | Y | SA   | 0  |
| 3 | Corporate Entrepreneurship & Growth / Corporate Entrepreneurship & Growth   | EN      | Prof. Ihl      | W-11 | EC | CM | 6 | Y | FFA | Y | GD   | 20 |
| 3 | Führung, Organisation und Personalmanagement / Management, Organization and Human Resource Management   | EN      | Prof. Ringle   | W-9  | EC | CM | 6 | Y | SA  | Y | RE   | 20 |
| 3 | Produktplanung / Product Planning   | EN      | Prof. Herstatt | W-7  | EC | CM | 6 | Y | KL  | Y | FFST | 20 |

**Specialisation Mechatronics** Compulsory Courses: 0 LP Optional Courses: 18 LP

|   |   |         |                 |      |    |    |   |   |    |   |      |    |
|---|---|---------|-----------------|------|----|----|---|---|----|---|------|----|
| 1 | Technische Schwingungslehre / Vibration Theory  | DE / EN | Prof. Hoffmann  | M-14 | EC | CM | 6 | Y | KL |   |      |    |
| 2 | Nichtlineare Dynamik / Nonlinear Dynamics   | DE / EN | Prof. Hoffmann  | M-14 | EC | CM | 6 | Y | KL |   |      |    |
| 3 | 3D Computer Vision / 3D Computer Vision   | 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 | Mikrosystemtechnik / Microsystem Engineering  | EN      | Prof. Kasper    | E-7  | EC | CM | 6 | Y | KL | N | RE   | 10 |
| 3 | Mixed-signal Schaltungsentwurf / Mixed-signal Circuit Design (lt. letzter PO CMOS-Nanoelektronik mit Praktikum) | EN      | Prof. Kuhl      | E-9  | EC | CM | 6 | Y | KL | Y | FFST | 0  |
| 3 | Prozessautomatisierungstechnik / Industrial Process Automation  | EN      | Prof. Schlaefer | E-1  | EC | CM | 6 | Y | KL | N | ÜA   | 10 |

| 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 %) |
| 3   | Theorie und Entwurf regelungstechnischer Systeme / Control Systems Theory and Design        | EN       | Prof. Werner         | E-14      | EC       | CM        | 6           | Y     | KL                  |             |                  |              |
| <b>Specialisation Product Development and Production</b> Compulsory Courses: 0 LP Optional Courses: 18 LP |   |          |                      |           |          |           |             |       |                     |             |                  |              |
| 2   | Additive Production / AdditiveProduction (lt. letzter PO Rapid Production)                  | EN       | Prof. Emmelmann      | G-2       | EC       | CM        | 6           | Y     | KL                  |             |                  |              |
| 2   | Boundary-Elemente-Methoden / Boundary Element Methods                                       | EN       | Prof. von Estorff    | M-16      | EC       | CM        | 6           | Y     | KL                  | N           | MT               | 20           |
| 2   | High-Order FEM / High-Order FEM   | EN       | Prof. Düster         | M-10      | EC       | CM        | 6           | Y     | KL                  | N           | RE               | 10           |
| 3   | 3D Printing Labor / 3D Printing Laboratory  | EN       | Prof. Emmelmann      | G-2       | EC       | CM        | 6           | N     | SA                  |             |                  |              |
| 3   | Lasersysteme und Metallische Konstruktionswerkstoffe / Laser Systems and Metallic Materials | EN       | Prof. Emmelmann      | G-2       | EC       | CM        | 6           | Y     | KL                  |             |                  |              |
| <b>Specialisation Materials</b> Compulsory Courses: 0 LP Optional Courses: 18 LP                          |   |          |                      |           |          |           |             |       |                     |             |                  |              |
| 1   | Kontinuumsmechanik / Continuum Mechanics  | DE       | Prof. Cyron          | M-15      | EC       | CM        | 6           | Y     | KL                  |             |                  |              |
| 2   | Mechanische Eigenschaften / Mechanical Properties   | DE / EN  | Dr. Lilleodden       | M-9       | EC       | CM        | 6           | Y     | KL                  |             |                  |              |
| 2   | Verarbeitung von Faser-Kunststoff-Verbunde / Processing of fibre-polymer-composites         | DE / EN  | Prof. Fiedler        | M-11      | EC       | CM        | 6           | Y     | KL                  |             |                  |              |
| 3   | Werkstoffmodellierung / Material Modeling   | DE       | Prof. Cyron          | M-15      | 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                  |             |                  |              |

## Selected Topics of Mechanical Engineering and Management (Alternative A: 12 CP)

| Course   |                   |              |         |         | Examination |       |                     |                        |
|--|-------------------|--------------|---------|---------|-------------|-------|---------------------|------------------------|
| Course Name (German / English)   | Course Form LV(5) | Language (6) | SWS (7) | Sem. LV | CP (4)      | Grade | Examination Form(3) | Additional information |
| Ermüdung und Schadenstoleranz / Fatigue & Damage Tolerance             | VL                | EN           | 2       | WiSe    | 3           | Y     | MP                  |                        |
| Forschungsseminar für Fortgeschrittene / Advanced Research Seminar     | SE                | EN           | 2       | SoSe    | 2           | Y     | SA                  |                        |
| Internationales Recht für Ingenieure / International Law for Engineers | VL                | EN           | 2       | WiSe    | 2           | Y     | KL                  |                        |
| Internationales Recht für Ingenieure / International Law for Engineers | SE                | EN           | 2       | SoSe    | 2           | Y     | SA                  |                        |
| Investition und Finanzierung / Corporate Finance                       | VL                | EN           | 2       | WiSe    | 2           | Y     | KL                  |                        |
| Leichtbaupraktikum / Lightweight Design Practical Course               | PBL               | DE/EN        | 3       | SoSe    | 3           | Y     | MP                  |                        |

| Course  |                      |                 |         |            | Examination |       |                        |                        |
|---|----------------------|-----------------|---------|------------|-------------|-------|------------------------|------------------------|
| Course Name (German / English)  | Course Form<br>LV(5) | Language<br>(6) | SWS (7) | Sem.<br>LV | CP (4)      | Grade | Examination<br>Form(3) | Additional information |
| Methodenbasiertes Projektmanagement / Project Management Methods                                    | VL                   | EN              | 1       | SoSe       | 2           | Y     | KL                     |                        |
| Personalmanagement und Organisationsentwicklung / Human Resource Management and Organization Design | VL                   | EN              | 2       | SoSe       | 2           | Y     | KL                     |                        |
| Rechnungswesen / Accounting   | VL                   | EN              | 2       | WiSe       | 2           | Y     | SA                     |                        |
| Rechnungswesen / Accounting   | HÜ                   | EN              | 2       | WiSe       | 2           | Y     | SA                     |                        |

## Selected Topics of Mechanical Engineering and Management (Alternative B: 6 CP)

| Course  |                      |                 |         |            | Examination |       |                        |                        |
|---|----------------------|-----------------|---------|------------|-------------|-------|------------------------|------------------------|
| Course Name (German / English)  | Course Form<br>LV(5) | Language<br>(6) | SWS (7) | Sem.<br>LV | CP (4)      | Grade | Examination<br>Form(3) | Additional information |
| Ermüdung und Schadenstoleranz / Fatigue & Damage Tolerance  | VL                   | EN              | 2       | WiSe       | 3           | Y     | MP                     |                        |
| Forschungsseminar für Fortgeschrittene / Advanced Research Seminar                                  | SE                   | EN              | 2       | SoSe       | 2           | Y     | SA                     |                        |
| Internationales Recht für Ingenieure / International Law for Engineers                              | VL                   | EN              | 2       | WiSe       | 2           | Y     | KL                     |                        |
| Internationales Recht für Ingenieure / International Law for Engineers                              | SE                   | EN              | 2       | SoSe       | 2           | Y     | SA                     |                        |
| Investition und Finanzierung / Corporate Finance  | VL                   | EN              | 2       | WiSe       | 2           | Y     | KL                     |                        |
| Leichtbaupraktikum / Lightweight Design Practical Course  | PBL                  | DE/EN           | 3       | SoSe       | 3           | Y     | MP                     |                        |
| Methodenbasiertes Projektmanagement / Project Management Methods                                    | VL                   | EN              | 1       | SoSe       | 2           | Y     | KL                     |                        |
| Personalmanagement und Organisationsentwicklung / Human Resource Management and Organization Design | VL                   | EN              | 2       | SoSe       | 2           | Y     | KL                     |                        |
| Rechnungswesen / Accounting   | VL                   | EN              | 2       | WiSe       | 2           | Y     | SA                     |                        |
| Rechnungswesen / Accounting   | HÜ                   | EN              | 2       | WiSe       | 2           | Y     | SA                     |                        |

### 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, MT=Midterm, 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, AB=Thesis, UA=Exercises, SA It. FPro=Written elaboration (accord. to Internship Regulations), EX=Participation in excursions

<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, PS=Project Seminar, HÜ=Recitation Section (large), IV=Integrated Lecture

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

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