

Exclosure to Subject Specific Regulations  
 from 25.07.2018  
 for Master-Programme  
 Regenerative Energien  
 at TUHH  
 Programme Director: Prof. Martin Kaltschmitt  
 Total: 120 CP  
 Number of Specilisations to choose: 1

# TUHH

## Course Scheme Master Renewable Energies (REMS)

Consolidated Version  
 for Study Cohort: WiSe21/22  
 en\_head\_sda  
 and Approval of Chair from:  
 04.05.2022  
 Replaces Version from: 19.05.2021  
 Out of Force on: 30.09.2024

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: 72 LP Optional Courses: 0 LP |   |          |                      |           |          |           |             |  |                     |             |                  |              |
| 1  | Bioenergie / Bioenergy  | DE       | Prof. Kaltschmitt    | V-9       | C        | CM        | 6           | Y  | KL                  |             |                  |              |
| 1  | Elektrische Energiesysteme I: Einführung in elektrische Energiesysteme / Electrical Power Systems I: Introduction to Electrical Power Systems | DE       | Prof. Becker         | E-6       | C        | CM        | 6           | Y  | KL                  |             |                  |              |
| 1  | Energieprojekte - Entwicklung und Bewertung / Energy Projects - Development and Assessment  | DE       | Prof. Kaltschmitt    | V-9       | C        | CM        | 6           | Y  | KL                  |             |                  |              |
| 1  | Strömungsmechanik und Meeresenergie / Fluid Mechanics and Ocean Energy  | DE       | Prof. Schlüter       | V-5       | C        | CM        | 6           | Y  | KL                  | Y           | GD               | 10           |
| 1-2  | Auslegung und Bewertung regenerativer Energiesysteme / Dimensioning and Assessment of Renewable Energy Systems                                | DE       | Prof. Kaltschmitt    | V-9       | C        | CM        | 6           | Y  | SA                  |             |                  |              |
| 2  | Elektrische Energie aus Solarstrahlung und Windkraft / Electrical Energy from Solar Radiation and Wind Power                                  | DE       | Dr. Höfer            | V-9       | C        | CM        | 6           | Y  | KL                  |             |                  |              |
| 2  | Modellierung und technische Auslegung von Bioraffinerieprozessen / Modelling and technical design of bio refinery processes                   | DE       | Prof. Kaltschmitt    | V-9       | C        | CM        | 6           | Y  | SA                  |             |                  |              |
| 2  | Solarenergienutzung / Use of Solar Energy   | DE       | Prof. Kaltschmitt    | V-9       | C        | CM        | 6           | Y  | KL                  |             |                  |              |
| 2  | Systemaspekte regenerativer Energien / System Aspects of Renewable Energies   | DE       | Prof. Kaltschmitt    | V-9       | C        | CM        | 6           | Y  | KL                  |             |                  |              |
| 3  | Thermische Energiesysteme / Thermal Energy Systems  | DE       | Prof. Speerforck     | M-21      | C        | CM        | 6           | Y  | KL                  |             |                  |              |
| 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 |                     |             |                  |              |

|   |   | 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>Specialisation Bioenergy Systems</b> Compulsory Courses: 0 LP Optional Courses: 18 LP    |   |          |                      |           |          |           |             |       |                     |             |                  |              |
| 2   | Abfall und Energie / Waste and Energy   | EN       | Prof. Kuchta         | V-9       | EC       | CM        | 6           | Y     | RE                  | Y           | SA               | 20           |
| 2   | Abfallbehandlung und Feststoffverfahrenstechnik / Waste Treatment and Solid Matter Process Technology                 | DE / EN  | Prof. Kuchta         | V-9       | EC       | CM        | 6           | Y     | KL                  |             |                  |              |
| 2   | Angewandte Optimierung in der Energie- und Verfahrenstechnik / Applied optimization in energy and process engineering | DE / EN  | Prof. Skiborowski    | V-4       | EC       | CM        | 6           | Y     | MP                  |             |                  |              |
| 2   | Aufbau und Eigenschaften der Faser-Kunststoff-Verbunde / Structure and properties of fibre-polymer-composites         | DE / EN  | Prof. Fiedler        | M-11      | EC       | CM        | 6           | Y     | KL                  |             |                  |              |
| 2   | Bioprozess- und Biosystemtechnik / Bioprocess and Biosystems Engineering  | EN       | Prof. Zeng           | V-1       | EC       | CM        | 6           | Y     | KL                  | Y           | RE               | 20           |
| 3   | Abwasserreinigung und Luftreinhaltung / Wastewater Treatment and Air Pollution Abatement                              | DE / EN  | Dr. Pietsch-Braune   | V-3       | EC       | CM        | 6           | Y     | KL                  |             |                  |              |
| 3   | Advanced Fuels / Advanced Fuels   | DE / EN  | Prof. Kaltschmitt    | V-9       | EC       | CM        | 6           | Y     | KL                  | Y           | SA               | 20           |
| 3   | Ausgewählte Prozesse der Feststoffverfahrenstechnik / Examples in Solid Process Engineering                           | DE / EN  | Prof. Heinrich       | V-3       | EC       | CM        | 6           | Y     | KL                  | Y           | SA               | 0            |
| 3-4   | Integration Erneuerbarer Energien / Integration of Renewable Energies   | DE       | Prof. Kaltschmitt    | V-9       | EC       | CM        | 6           | Y     | KL                  |             |                  |              |
| <b>Specialisation Solar Energy Systems</b> Compulsory Courses: 0 LP Optional Courses: 18 LP |   |          |                      |           |          |           |             |       |                     |             |                  |              |
| 2   | Aufbau und Eigenschaften der Faser-Kunststoff-Verbunde / Structure and properties of fibre-polymer-composites         | DE / EN  | Prof. Fiedler        | M-11      | EC       | CM        | 6           | Y     | KL                  |             |                  |              |
| 2   | Leistungselektronik / Power electronics   | DE       | Prof. Kaltschmitt    | V-9       | EC       | CM        | 6           | Y     | KL                  |             |                  |              |
| 2   | Optoelektronik I - Wellenoptik / Optoelectronics I - Wave Optics  | EN       | Dr. Petrov           | E-12      | EC       | CM        | 4           | Y     | KL                  |             |                  |              |
| 2   | Prozessmesstechnik / Process Measurement Engineering  | DE / EN  | Prof. Harig          | E-6       | EC       | CM        | 4           | Y     | MP                  |             |                  |              |
| 2   | Risikomanagement, Wasserstoff- und Brennstoffzellentechnologie / Risk Management, Hydrogen and Fuel Cell Technology   | DE       | Prof. Kaltschmitt    | V-9       | EC       | CM        | 6           | Y     | KL                  |             |                  |              |
| 3   | Advanced Fuels / Advanced Fuels   | DE / EN  | Prof. Kaltschmitt    | V-9       | EC       | CM        | 6           | Y     | KL                  | Y           | SA               | 20           |
| 3   | Energieinformationssysteme und Elektromobilität / Energy Information Systems and Electromobility                      | DE       | Prof. Kaltschmitt    | V-9       | EC       | CM        | 6           | Y     | MP                  |             |                  |              |
| 3   | Smart-Grid-Technologien / Smart Grid Technologies   | DE / EN  | Prof. Becker         | E-6       | EC       | CM        | 6           | Y     | RE                  |             |                  |              |
| 3   | Transportprozesse / Transport Processes   | EN       | Prof. Schlüter       | V-5       | EC       | CM        | 6           | Y     | KL                  |             |                  |              |

|  |   | Module   |                      |           |          |           | Examination |       |                     |            | Course Work      |              |  |
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| 3-4  | Integration Erneuerbarer Energien / Integration of Renewable Energies   | DE       | Prof. Kaltschmitt    | V-9       | EC       | CM        | 6           | Y     | KL                  |            |                  |              |  |
| <b>Specialisation Wind Energy Systems</b> Compulsory Courses: 0 LP Optional Courses: 18 LP |   |          |                      |           |          |           |             |       |                     |            |                  |              |  |
| 2  | Angewandte Optimierung in der Energie- und Verfahrenstechnik / Applied optimization in energy and process engineering | DE / EN  | Prof. Skiborowski    | V-4       | EC       | CM        | 6           | Y     | MP                  |            |                  |              |  |
| 2  | Aufbau und Eigenschaften der Faser-Kunststoff-Verbunde / Structure and properties of fibre-polymer-composites         | DE / EN  | Prof. Fiedler        | M-11      | EC       | CM        | 6           | Y     | KL                  |            |                  |              |  |
| 2  | Hafenlogistik / Port Logistics  | DE       | Prof. Jahn           | W-12      | EC       | CM        | 6           | Y     | KL                  | N          | SA               | 15           |  |
| 2  | Marine Bodentechnik / Marine Soil Technics  | DE       | Dr. Höfer            | V-9       | EC       | CM        | 6           | Y     | KL                  |            |                  |              |  |
| 2  | Maritimer Transport / Maritime Transport  | DE       | Prof. Jahn           | W-12      | EC       | CM        | 6           | Y     | KL                  | N          | FFST             | 15           |  |
| 2  | Risikomanagement, Wasserstoff- und Brennstoffzellentechnologie / Risk Management, Hydrogen and Fuel Cell Technology   | DE       | Prof. Kaltschmitt    | V-9       | EC       | CM        | 6           | Y     | KL                  |            |                  |              |  |
| 3  | Advanced Fuels / Advanced Fuels   | DE / EN  | Prof. Kaltschmitt    | V-9       | EC       | CM        | 6           | Y     | KL                  | Y          | SA               | 20           |  |
| 3  | Energieinformationssysteme und Elektromobilität / Energy Information Systems and Electromobility                      | DE       | Prof. Kaltschmitt    | V-9       | EC       | CM        | 6           | Y     | MP                  |            |                  |              |  |
| 3  | Maritime Technik und Offshore-Windkraftparks / Maritime Technology and Offshore Wind Parks                            | DE       | Prof. Abdel-Maksoud  | M-8       | EC       | CM        | 6           | Y     | KL                  |            |                  |              |  |
| 3  | Smart-Grid-Technologien / Smart Grid Technologies   | DE / EN  | Prof. Becker         | E-6       | EC       | CM        | 6           | Y     | RE                  |            |                  |              |  |
| 3-4  | Integration Erneuerbarer Energien / Integration of Renewable Energies   | DE       | Prof. Kaltschmitt    | V-9       | 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, GD=Group discussion, AB=Thesis, SA It. FPrO=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, PS=Project Seminar, PK=Projection Course, 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