

Exclosure to Subject Specific Regulations
 from 10.03.2021
 for Bachelor-Programme
 Green Technologies: Energie, Wasser, Klima
 at TUHH
 Programme Director: Prof. Martin Kaltschmitt
 Total: 180 CP
 Number of Specilisations to choose: 1

Course Scheme Bachelor Green Technologies: Energy, Water, Climate (GTBS)

Consolidated Version
 for Study Cohort: WiSe21/22
 en_head_sda
 and Approval of Chair from:
 06.07.2022
 Replaces Version from: 19.05.2021
 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 %) |
| Core Qualification Compulsory Courses: 138 LP Optional Courses: 0 LP | | | | | | | | | | | | |
| 1 | Allgemeine und Anorganische Chemie / General and Inorganic Chemistry | DE | Prof. Luinstra | 0-UNIHH | C | CM | 6 | Y | KL | Y | FFST | 0 |
| 1 | Green Technologies I / Green Technologies I | DE | Prof. Kaltschmitt | V-9 | C | CM | 6 | Y | KL | Y | RE | 20 |
| 1 | Informatik für Ingenieure - Einführung & Überblick / Computer Science for Engineers - Introduction and Overview | DE / EN | Prof. Fey | E-13 | C | CM | 6 | Y | KL | N | TE | 10 |
| 1 | Mathematik I / Mathematics I | DE | Prof. Taraz | E-10 | C | CM | 8 | Y | KL | | | |
| 1 | Mechanik I (Stereostatik) / Mechanics I (Statics) | DE | Prof. Seifried | M-13 | C | CM | 6 | Y | KL | | | |
| 2 | Mathematik II / Mathematics II | DE | Prof. Taraz | E-10 | C | CM | 8 | Y | KL | | | |
| 2 | Mechanik II: Elastostatik / Mechanics II: Mechanics of Materials | DE | Prof. Cyron | M-15 | C | CM | 6 | Y | KL | | | |
| 2 | Organische Chemie / Organic Chemistry | DE | Prof. Holl | 0-UNIHH | C | CM | 6 | Y | KL | Y | FFST | 0 |
| 2 | Technische Thermodynamik I / Technical Thermodynamics I | DE | Prof. Dr. Speerforck | M-21 | C | CM | 6 | Y | KL | | | |
| 3 | Grundlagen der Elektrotechnik / Basics of Electrical Engineering | DE | Prof. Kern | M-4 | C | CM | 6 | Y | KL | | | |
| 3 | Mathematik III / Mathematics III | DE | Prof. Taraz | 0-UNIHH-M | C | CM | 8 | Y | KL | | | |
| 3 | Messtechnik für Chemie- und Bioingenieurwesen / Measurement Technology for Chemical and Bioprocess Engineering (lt. letzter PO Messtechnik für VT / BVT) | DE | Prof. Penn | V-10 | C | CM | 6 | Y | KL | N | ÜA | 20 |
| 3 | Technische Thermodynamik II / Technical Thermodynamics II | DE | Prof. Dr. Speerforck | M-21 | C | CM | 6 | Y | KL | | | |
| 3-4 | Green Technologies II / Green Technologies II | DE | Dr. Scherzinger | V-9 | C | CM | 6 | Y | KL | | | |
| 4 | Grundlagen der Strömungsmechanik / Fundamentals of Fluid Mechanics | DE | Prof. Schlüter | V-5 | C | CM | 6 | Y | KL | N | MT | 5 |

| | | Module | | | | | Examination | | | Course Work | | |
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| 4 | Konventionelle Energiesysteme und Energiewirtschaft / Conventional Energy Systems and Energy Industry | DE | Prof. Kaltschmitt | V-9 | C | CM | 6 | Y | KL | | | |
| 4 | Regenerative Energien / Renewable Energies | DE | Prof. Kaltschmitt | V-9 | C | CM | 6 | Y | KL | | | |
| 4 | Siedlungswasserwirtschaft I / Sanitary Engineering I | DE | Prof. Otterpohl | B-2 | C | CM | 6 | Y | KL | | | |
| 5 | Grundlagen der Regelungstechnik / Introduction to Control Systems | DE | Prof. Werner | E-14 | C | CM | 6 | Y | KL | | | |
| 5 | Ökonomische und ökologische Projektbewertung / Economic and environmental project assessment | DE / EN | Prof. Kaltschmitt | V-9 | C | CM | 6 | Y | KL | | | |
| 5 | Wärme- und Stoffübertragung / Heat and Mass Transfer | DE | Prof. Smirnova | V-8 | C | CM | 6 | Y | KL | | | |
| 1-6 | Nichttechnische Angebote im Bachelor / Non-technical Courses for Bachelors | DE / EN | Richter | 0-TUHH | C | OM | 6 | Selection out of seperatly published Catalogue | | | | |

Specialisation Bioresource Technology Compulsory Courses: 0 LP Optional Courses: 30 LP

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|-----|---|---------|---------------------------|------|----|----|---|---|-----|---|------|----|
| 4 | Biochemie und Mikrobiologie / Biochemistry and Microbiology | DE | Prof. Gescher | V-7 | EC | CM | 6 | Y | KL | | | |
| 5 | Bioverfahrenstechnik - Vertiefung / Bioprocess Engineering - Advanced | EN | Prof. Pörtner | V-1 | EC | CM | 6 | Y | KL | | | |
| 5 | Green Technologies III / Green Technologies III | DE | Dozenten des Studiengangs | SD-V | EC | CM | 6 | Y | STA | | | |
| 5 | Thermische Grundoperationen / Thermal Separation Processes | DE / EN | Prof. Smirnova | V-8 | EC | CM | 6 | Y | KL | | | |
| 5-6 | Chemische Reaktionstechnik / Chemical Reaction Engineering | DE / EN | Prof. Horn | V-2 | EC | CM | 6 | Y | KL | Y | FFST | 0 |
| 6 | Bioverfahrenstechnik - Grundlagen / Bioprocess Engineering - Fundamentals | DE | Prof. Liese | V-6 | EC | CM | 6 | Y | KL | Y | FFST | 5 |
| 6 | Phasengleichgewichtsthermodynamik / Phase Equilibria Thermodynamics | DE | Prof. Smirnova | V-8 | EC | CM | 6 | Y | KL | | | |
| 6 | Prozess- und Anlagentechnik I / Process and Plant Engineering I | DE | Prof. Skiborowski | V-4 | EC | CM | 6 | Y | KL | Y | FFST | 10 |

Specialisation Energy Systems Compulsory Courses: 0 LP Optional Courses: 30 LP

| | | | | | | | | | | | | |
|---|---|---------|---------------------------|---------|----|----|---|---|-----|---|----|----|
| 4 | Informatik für Ingenieure - Programmierkonzepte, Data Handling & Kommunikation / Computer Science for Engineers - Programming Concepts, Data Handling & Communication | DE | Prof. Fröschle | E-15 | EC | CM | 6 | Y | KL | N | TE | 10 |
| 5 | Elektrische Energiesysteme I: Einführung in elektrische Energiesysteme / Electrical Power Systems I: Introduction to Electrical Power Systems | DE | Prof. Becker | E-6 | EC | CM | 6 | Y | KL | | | |
| 5 | Green Technologies III / Green Technologies III | DE | Dozenten des Studiengangs | SD-V | EC | CM | 6 | Y | STA | | | |
| 5 | Klimaphysik / Climate physics | DE / EN | Prof. Dr. Bühler | 0-UNIHH | EC | CM | 6 | Y | KL | | | |
| 5 | Thermische Grundoperationen / Thermal Separation Processes | DE / EN | Prof. Smirnova | V-8 | EC | CM | 6 | Y | KL | | | |

| | | Module | | | | | Examination | | | Course Work | | |
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| 5 | Wärme kraftwerke / Gas and Steam Power Plants | DE | Dr. Abel-Günther | M-5 | EC | CM | 6 | Y | KL | N | SA | 5 |
| | | | | | | | | | | N | RE | 5 |
| | | | | | | | | | | N | ÜA | 5 |
| | | | | | | | | | | N | GD | 5 |
| 5-6 | Systemintegration Erneuerbare Energien / System Integration Renewable Energies | DE | Prof. Kaltschmitt | V-9 | EC | CM | 6 | Y | KL | | | |
| 6 | Auswirkung & Minderung des Klimawandels / Climate change impact & mitigation | DE | Prof. Kaltschmitt | V-9 | EC | CM | 6 | Y | KL | | | |
| 6 | Phasengleichgewichtsthermodynamik / Phase Equilibria Thermodynamics | DE | Prof. Smirnova | V-8 | EC | CM | 6 | Y | KL | | | |
| Specialisation Energy Technology Compulsory Courses: 0 LP Optional Courses: 30 LP | | | | | | | | | | | | |
| 4 | Grundlagen der Konstruktionslehre / Fundamentals of Mechanical Engineering Design | DE | Prof. Krause | M-17 | EC | CM | 6 | Y | KL | | | |
| 4-5 | Grundlagen der Werkstoffwissenschaften / Fundamentals of Materials Science | DE | Prof. Weißmüller | M-22 | EC | CM | 6 | Y | KL | | | |
| 5 | Green Technologies III / Green Technologies III | DE | Dozenten des Studiengangs | SD-V | EC | CM | 6 | Y | STA | | | |
| 5 | Technische Mechanik III (Dynamik) / Engineering Mechanics III (Dynamics) | DE | Prof. Seifried | M-13 | EC | CM | 6 | Y | KL | | | |
| 5 | Wärme kraftwerke / Gas and Steam Power Plants | DE | Dr. Abel-Günther | M-5 | EC | CM | 6 | Y | KL | N | SA | 5 |
| | | | | | | | | | | N | RE | 5 |
| | | | | | | | | | | N | ÜA | 5 |
| | | | | | | | | | | N | GD | 5 |
| 5-6 | Kolbenmaschinen / Reciprocating Machinery | DE | Prof. Wirz | M-12 | EC | CM | 6 | Y | KL | | | |
| 5-6 | Konstruktionslehre Gestalten / Mechanical Engineering: Design | DE | Prof. Krause | M-17 | EC | CM | 6 | Y | KL | Y | SA | 0 |
| | | | | | | | | | | Y | SA | 0 |
| | | | | | | | | | | Y | SA | 0 |
| | | | | | | | | | | Y | SA | 0 |
| 6 | Elektrische Maschinen und Antriebe / Electrical Machines and Actuators | DE | Prof. Kern | M-4 | EC | CM | 6 | Y | FFA | | | |
| 6 | Fertigungstechnik / Production Engineering | DE | Prof. Hintze | M-18 | EC | CM | 6 | Y | KL | | | |
| Specialisation Water Compulsory Courses: 0 LP Optional Courses: 30 LP | | | | | | | | | | | | |
| 4 | Wasser und Umwelt / Water and Environment | DE | Prof. Ernst | B-11 | EC | CM | 6 | Y | KL | Y | RE | 0 |

| | | Module | | | | | Examination | | | Course Work | | |
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| 4-5 | Hydrologie und Geoinformationssysteme / Hydrology and Geoinformation Systems | DE | Prof. Fröhle | B-10 | EC | CM | 6 | Y | FFA | | | |
| 5 | Green Technologies III / Green Technologies III | DE | Dozenten des Studiengangs | SD-V | EC | CM | 6 | Y | STA | | | |
| 5 | New Trends in Water and Environmental Research / New Trends in Water and Environmental Research | EN | Prof. Shokri | B-9 | EC | CM | 6 | N | SA | | | |
| 5 | Wasserbau / Hydraulic Engineering | DE | Prof. Fröhle | B-10 | EC | CM | 6 | Y | KL | Y | FFST | 0 |
| 6 | Angewandte Wasserwirtschaft / Applied Water Management | DE / EN | Prof. Fröhle | B-10 | EC | CM | 6 | Y | FFA | | | |
| 6 | Partikeltechnologie und Feststoffverfahrenstechnik I / Particle Technology and Solids Process Engineering | DE / EN | Prof. Heinrich | V-3 | EC | CM | 6 | Y | KL | Y | SA | 0 |
| 6 | Siedlungswasserwirtschaft II / Sanitary Engineering II | DE | Prof. Ernst | B-11 | EC | CM | 6 | Y | FFA | | | |
| Thesis Compulsory Courses: 12 LP Optional Courses: 0 LP | | | | | | | | | | | | |
| 6 | Bachelorarbeit / Bachelor Thesis | | Professoren der TUHH | 0-TUHH | C | CM | 12 | Y | AB | | | |

Explanation:

¹C=Compulsory, EC=Elective Compulsory

²CM=Compulsory Defined Module, OM=Optional Defined Module

³KL=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, TE=Attestation

⁴CP=Credit Points

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

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

⁷SWS=Contact hours