

Course Scheme Bachelor Energy and Environmental Engineering (EUTBS)

| Re com. Term | Module Name (German) | Modul Name (English) | Institute | C/EC (1) | CM/OM (2) | Grade | Examination Form(3) | CP (4) | Course Name (German) | Course Name (English) | Course Form LV(5) | Language (6) | SWS (7) | Sem. LV |
|---|--|--|-----------|----------|-----------|-------|---------------------|--------|--|--|-------------------|--------------|---------|---------|
| Core qualification Compulsory Courses: 168 LP Optional Courses: 0 LP | | | | | | | | | | | | | | |
| 1 | Allgemeine und Anorganische Chemie | General and Inorganic Chemistry | 0-UNIHH | C | CM | Yes | KI | 6 | Allgemeine und Anorganische Chemie | Fundamentals in Inorganic Chemistry | VL | DE | 4 | 1 |
| | | | | | | | | | Allgemeine und Anorganische Chemie | Fundamentals in Inorganic Chemistry | PR | DE | 3 | 1 |
| 1 | Einführung in die Energie- und Umwelttechnik | Introduction into Energy and Environmental Engineering | M-5 | C | CM | Yes | Re | 6 | Einführung in die Energie- und Umwelttechnik | Introduction to Energy and Environmental Engineering | POL | DE | 4 | 1 |
| | | | | | | | | | Physik-Praktikum für VT/ BVT/ EUT | Physics-Lab for VT/ BVT/ EUT | PR | DE/EN | 2 | 1 |
| 1 | Mathematik I | Mathematics I | E-10 | C | CM | Yes | KI | 8 | Analysis I | Analysis I | VL | DE | 2 | 1 |
| | | | | | | | | | Analysis I | Analysis I | UE | DE | 1 | 1 |
| | | | | | | | | | Analysis I | Analysis I | HÜ | DE | 1 | 1 |
| | | | | | | | | | Lineare Algebra I | Linear Algebra I | VL | DE | 2 | 1 |
| | | | | | | | | | Lineare Algebra I | Linear Algebra I | UE | DE | 1 | 1 |
| | | | | | | | | | Lineare Algebra I | Linear Algebra I | HÜ | DE | 1 | 1 |
| 1 | Technische Mechanik I | Engineering Mechanics I | M-24 | C | CM | Yes | KI | 6 | Technische Mechanik I | Engineering Mechanics I | VL | DE | 3 | 1 |
| | | | | | | | | | Technische Mechanik I | Engineering Mechanics I | UE | DE | 2 | 1 |
| 2 | Grundlagen der Konstruktionslehre | Fundamentals of Mechanical Engineering Design | M-17 | C | CM | Yes | KI | 6 | Grundlagen der Konstruktionslehre | Fundamentals of Mechanical Engineering Design | VL | DE | 2 | 2 |
| | | | | | | | | | Grundlagen der Konstruktionslehre | Fundamentals of Mechanical Engineering Design | HÜ | DE | 2 | 2 |
| 2 | Mathematik II | Mathematics II | E-10 | C | CM | Yes | KI | 8 | Analysis II | Analysis II | VL | DE | 2 | 2 |
| | | | | | | | | | Analysis II | Analysis II | UE | DE | 1 | 2 |
| | | | | | | | | | Analysis II | Analysis II | HÜ | DE | 1 | 2 |
| | | | | | | | | | Lineare Algebra II | Linear Algebra II | VL | DE | 2 | 2 |

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|--------------|--|-----------------------------------|-----------|----------|-----------|-------|---------------------|--------|--|--|-------------------|--------------|---------|---------|
| | | | | | | | | | Lineare Algebra II | Linear Algebra II | UE | DE | 1 | 2 |
| | | | | | | | | | Lineare Algebra II | Linear Algebra II | HÜ | DE | 1 | 2 |
| 2 | Organische Chemie | Organic Chemistry | 0-UNIHH | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Organische Chemie | Organic Chemistry | VL | DE | 4 | 2 |
| | | | | | | | | | Organische Chemie | Organic Chemistry | PR | DE | 3 | 2 |
| 2 | Technische Mechanik II | Engineering Mechanics II | M-24 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Technische Mechanik II | Engineering Mechanics II | VL | DE | 3 | 2 |
| | | | | | | | | | Technische Mechanik II | Engineering Mechanics II | UE | DE | 2 | 2 |
| 2 | Technische Thermodynamik I | Technical Thermodynamics I | M-21 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Technische Thermodynamik I | Technical Thermodynamics I | VL | DE | 2 | 2 |
| | | | | | | | | | Technische Thermodynamik I | Technical Thermodynamics I | UE | DE | 1 | 2 |
| | | | | | | | | | Technische Thermodynamik I | Technical Thermodynamics I | HÜ | DE | 1 | 2 |
| 3 | Grundlagen der Elektrotechnik | Basics of Electrical Engineering | M-4 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Grundlagen der Elektrotechnik | Basics of Electrical Engineering | VL | DE | 3 | 3 |
| | | | | | | | | | Grundlagen der Elektrotechnik | Basics of Electrical Engineering | UE | DE | 2 | 3 |
| 3 | Mathematik III | Mathematics III | 0-UNIHH | C | CM | Yes | KI | 8 | | | | | | |
| | | | | | | | | | Analysis III | Analysis III | VL | DE | 2 | 3 |
| | | | | | | | | | Analysis III | Analysis III | UE | DE | 1 | 3 |
| | | | | | | | | | Analysis III | Analysis III | HÜ | DE | 1 | 3 |
| | | | | | | | | | Differentialgleichungen 1 (Gewöhnliche Differentialgleichungen) | Differential Equations 1 (Ordinary Differential Equations) | VL | DE | 2 | 3 |
| | | | | | | | | | Differentialgleichungen 1 (Gewöhnliche Differentialgleichungen) | Differential Equations 1 (Ordinary Differential Equations) | UE | DE | 1 | 3 |
| | | | | | | | | | Differentialgleichungen 1 (Gewöhnliche Differentialgleichungen) | Differential Equations 1 (Ordinary Differential Equations) | HÜ | DE | 1 | 3 |
| 3 | Technische Thermodynamik II | Technical Thermodynamics II | M-21 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Technische Thermodynamik II | Technical Thermodynamics II | VL | DE | 2 | 3 |
| | | | | | | | | | Technische Thermodynamik II | Technical Thermodynamics II | UE | DE | 1 | 3 |
| | | | | | | | | | Technische Thermodynamik II | Technical Thermodynamics II | HÜ | DE | 1 | 3 |
| 3-4 | Grundlagen der Werkstoffwissenschaften | Fundamentals of Materials Science | M-22 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Grundlagen der Werkstoffwissenschaft I | Fundamentals of Materials Science I | VL | DE | 2 | 3 |
| | | | | | | | | | Physikalische und Chemische Grundlagen der Werkstoffwissenschaften | Physical and Chemical Basics of Materials Science | VL | DE | 2 | 3 |

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|--------------|---|---|-----------|----------|-----------|-------|---------------------|--------|---|--|-------------------|--------------|---------|---------|
| | | | | | | | | | Grundlagen der Werkstoffwissenschaft II (Keramische Hochleistungswerkstoffe, Kunststoffe und Verbundwerkstoffe) | Fundamentals of Materials Science II (Advanced Ceramic Materials, Polymers and Composites) | VL | DE | 2 | 4 |
| 3-4 | Konstruktionslehre Gestalten | Mechanical Engineering: Design | M-17 | C | CM | Yes | KI | 6 | Gestalten von Bauteilen und 3D-CAD | Embodiment Design and 3D-CAD | VL | DE | 2 | 3 |
| | | | | | | | | | Konstruktionsprojekt I | Mechanical Design Project I | TT | DE | 3 | 3 |
| | | | | | | | | | Konstruktionsprojekt II | Mechanical Design Project II | TT | DE | 3 | 4 |
| | | | | | | | | | Teamprojekt Konstruktionsmethodik | Team Project Design Methodology | POL | DE | 2 | 4 |
| 4 | Elektrische Maschinen | Electrical Machines | M-4 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Elektrische Maschinen | Electrical Machines | VL | DE | 3 | 4 |
| | | | | | | | | | Elektrische Maschinen | Electrical Machines | HÜ | DE | 2 | 4 |
| 4 | Grundlagen der Betriebswirtschaftslehre | Foundations of Management | W-11 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Grundlagen der Betriebswirtschaftslehre | Introduction to Management | VL | DE | 3 | 4 |
| | | | | | | | | | Projekt Entrepreneurship | Project Entrepreneurship | POL | DE | 2 | 4 |
| 4 | Grundlagen der Strömungsmechanik | Fundamentals of Fluid Mechanics | V-5 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Grundlagen der Strömungsmechanik | Fundamentals of Fluid Mechanics | VL | DE | 2 | 4 |
| | | | | | | | | | Strömungsmechanik für die Verfahrenstechnik | Fluid Mechanics for Process Engineering | HÜ | DE | 2 | 4 |
| 4 | Informatik für Verfahreningenieure | Informatics for Process Engineers | E-17 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Informatik für Verfahreningenieure | Informatics for Process Engineers | VL | DE | 2 | 4 |
| | | | | | | | | | Informatik für Verfahreningenieure | Informatics for Process Engineers | UE | DE | 2 | 4 |
| | | | | | | | | | Numerik und Matlab | Numeric and Matlab | PR | DE | 2 | 4 |
| 5 | Grundlagen der Regelungstechnik | Introduction to Control Systems | E-14 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Grundlagen der Regelungstechnik | Introduction to Control Systems | VL | DE | 2 | 5 |
| | | | | | | | | | Grundlagen der Regelungstechnik | Introduction to Control Systems | UE | DE | 2 | 5 |
| 5 | Messtechnik für Maschinenbau- und Verfahreningenieure | Measurement Technology for Mechanical and Process Engineers | M-4 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Laborpraktikum: Labor-, Mess-, Steuer- und Regelungstechnik | Practical Course: Measurement and Control Systems | PR | DE | 2 | 5 |
| | | | | | | | | | Messtechnik für Maschinenbau- und Verfahreningenieure | Measurement Technology for Mechanical and Process Engineers | VL | DE | 2 | 5 |
| | | | | | | | | | Messtechnik für Maschinenbau- und Verfahreningenieure | Measurement Technology for Mechanical and Process Engineers | HÜ | DE | 1 | 5 |
| 5 | Wärme- und Stoffübertragung | Heat and Mass Transfer | V-8 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Wärme- und Stoffübertragung | Heat and Mass Transfer | VL | DE | 2 | 5 |
| | | | | | | | | | Wärme- und Stoffübertragung | Heat and Mass Transfer | UE | DE | 1 | 5 |

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| 5 | Wärme kraftwerke | Gas and Steam Power Plants | M-5 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Wärme kraftwerke | Gas and Steam Power Plants | VL | DE | 3 | 5 |
| | | | | | | | | | Wärme kraftwerke | Gas and Steam Power Plants | HÜ | DE | 2 | 5 |
| 5-6 | Thermische Grundoperationen | Thermal Separation Processes | V-8 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Thermische Grundoperationen | Thermal Separation Processes | VL | DE | 3 | 5 |
| | | | | | | | | | Thermische Grundoperationen | Thermal Separation Processes | UE | DE | 2 | 5 |
| | | | | | | | | | Thermische Grundoperationen | Thermal Separation Processes | HÜ | DE | 1 | 5 |
| | | | | | | | | | Thermische Grundoperationen | Separation Processes | PR | DE/EN | 1 | 6 |
| 5-6 | Umwelttechnik | Environmental Technology | V-9 | C | CM | Yes | KI | 3 | | | | | | |
| | | | | | | | | | Umwelttechnik | Environmental Technologie | VL | DE | 2 | 5 |
| | | | | | | | | | Laborpraktikum Umwelttechnik | Practical Exercise Environmental Technology | PR | DE | 1 | 6 |
| 6 | Partikeltechnologie und Feststoffverfahrenstechnik I | Particle Technology and Solids Process Engineering | V-3 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Partikeltechnologie I | Particle Technology I | VL | DE | 2 | 6 |
| | | | | | | | | | Partikeltechnologie I | Particle Technology I | UE | DE | 1 | 6 |
| | | | | | | | | | Partikeltechnologie I | Particle Technology I | PR | DE | 2 | 6 |
| 6 | Regenerative Energiesysteme und Energiewirtschaft | Renewables and Energy Systems | V-9 | C | CM | Yes | KI | 6 | | | | | | |
| | | | | | | | | | Elektrizitätswirtschaft | Power Industry | VL | DE | 1 | 6 |
| | | | | | | | | | Energiesysteme und Energiewirtschaft | Energy Systems and Energy Industry | VL | DE | 2 | 6 |
| | | | | | | | | | Regenerative Energien | Renewable Energy | VL | DE/EN | 2 | 6 |
| | | | | | | | | | Regenerative Energien | Renewable Energy | UE | DE/EN | 1 | 6 |
| 6 | Umweltbewertung | Environmental Technology | V-9 | C | CM | Yes | KI | 3 | | | | | | |
| | | | | | | | | | Umweltbewertung | Environmental Assessment | VL | DE/EN | 2 | 6 |
| | | | | | | | | | Umweltbewertung | Environmental Assessment | UE | DE | 1 | 6 |
| 1-6 | Nichttechnische Ergänzungskurse im Bachelor | Nontechnical Complementary Courses for Bachelors | 0-TUHH | C | OM | | | 6 | Selection out of Catalogue | | | | | |
| Thesis Compulsory Courses: 12 LP Optional Courses: 0 LP | | | | | | | | | | | | | | |
| 6 | Bachelorarbeit | Bachelor Thesis | not defined | C | CM | Yes | lt. FSPO | 12 | | | | | | |

Explanation:

¹C=Compulsory, EC=Elective Compulsory

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

³KI=Written exam, Re=Presentation, KI=Written exam, SA=Written elaboration, HA=Homework, Re=Presentation, lt. FSPO=according to Subject Specific Regulations

⁴CP=Credit Points

⁵VL=Lecture, SE=Seminar, UE=Recitation Section (small), POL=Problem-based Learning, PR=Laboratory Course, TT=Practical Course, HÜ=Recitation Section (large)

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

⁷SWS=Contact hours