# Course of Study Energy and Environmental Engineering (Study Cohort w19)

Legend:
Core Qualification Elective Compulsory | Specialisation Elective Compulsory | Focus Elective Compulsory | Thesis Compulsory
Core Qualification Elective Compulsory | Specialisation Elective Compulsory | Focus Elective Compulsory | Interdisciplinary complement

Sample course plan A  Bachelor Energy and Environmental Engineering (EUTBS)

| LP | Semester 1 | Form | Hrs/wk | Semester 2 | Form | Hrs/wk | Semester 3 | Form | Hrs/wk | Semester 4 | Form | Hrs/wk | Semester 5 | Form | Hrs/wk | Semester 6 | Form | Hrs/wk |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Engineering Mechanics I** | | | **Engineering Mechanics II** | | | **Mechanical Engineering: Design (part 1)** | | | **Fundamentals of Fluid Mechanics** | | | **Heat and Mass Transfer** | | | **Environmental Technology (part 2)** | | |
| 2 | Engineering Mechanics I | VL | 3 | Engineering Mechanics II | VL | 3 | Embodiment Design and 3D-CAD | VL | 2 | Fundamentals of Fluid Mechanics | VL | 2 | Heat and Mass Transfer | VL | 2 | Practical Exercise Environmental Technology | PR | 1 |
| 3 | Engineering Mechanics I | GÜ | 2 | Engineering Mechanics II | GÜ | 2 | Mechanical Design Project I | PBL | 3 | Fluid Mechanics for Process Engineering | HÜ | 2 | Heat and Mass Transfer | GÜ | 1 | | | |
| 4 | | | | | | | | | | | | | Heat and Mass Transfer | HÜ | 1 | **Renewables Energy Systems** | | |
| 5 | | | | | | | **Basics of Electrical Engineering** | | | | | | | | | Renewable Energy | VL | 2 |
| 6 | | | | | | | Basics of Electrical Engineering | VL | 3 | | | | | | | Energy Systems and Energy Industry | VL | 2 |
| 7 | **Mathematics I** | | | **Fundamentals of Mechanical Engineering Design** | | | Basics of Electrical Engineering | GÜ | 2 | **Electrical Machines and Actuators** | | | **Introduction to Control Systems** | | | Power Industry | VL | 1 |
| 8 | Linear Algebra I | VL | 2 | Fundamentals of Mechanical Engineering Design | VL | 2 | | | | Electrical Machines and Actuators | VL | 3 | Introduction to Control Systems | VL | 2 | Renewable Energy | GÜ | 1 |
| 9 | Linear Algebra I | GÜ | 1 | Fundamentals of Mechanical Engineering Design | HÜ | 2 | | | | Electrical Machines and Actuators | HÜ | 2 | Introduction to Control Systems | GÜ | 2 | | | |
| 10 | Linear Algebra I | HÜ | 1 | | | | **Technical Thermodynamics II** | | | | | | | | | **Advanced Mechanical Engineering Design (part 2)** | | |
| 11 | Analysis I | VL | 2 | | | | Technical Thermodynamics II | VL | 2 | | | | | | | Advanced Mechanical Engineering Design II | VL | 2 |
| 12 | Analysis I | GÜ | 1 | | | | Technical Thermodynamics II | HÜ | 1 | | | | | | | Advanced Mechanical Engineering Design II | HÜ | 2 |
| 13 | Analysis I | HÜ | 1 | **Technical Thermodynamics I** | | | Technical Thermodynamics II | GÜ | 1 | **Informatics for Process Engineers** | | | **Measurement Technology for Mechanical Engineers** | | | **Reciprocating Machinery (part 2)** | | |
| 14 | | | | Technical Thermodynamics I | VL | 2 | | | | Numeric and Matlab | PR | 2 | Measurement Technology for Mechanical Engineering | VL | 2 | Internal Combustion Engines I | VL | 2 |
| 15 | **General and Inorganic Chemistry** | | | Technical Thermodynamics I | HÜ | 1 | **Foundations of Management** | | | Informatics for Process Engineers | VL | 2 | Measurement Technology for Mechanical Engineering | HÜ | 1 | Internal Combustion Engines I | HÜ | 1 |
| 16 | General and Inorganic Chemistry | VL | 3 | Technical Thermodynamics I | GÜ | 1 | Introduction to Management | VL | 3 | Informatics for Process Engineers | GÜ | 2 | Practical Course: Measurement and Control Systems | PR | 2 | **Bachelor Thesis** | | |
| 17 | Fundamentals in Inorganic Chemistry | PR | 3 | | | | Management Tutorial | GÜ | 2 | | | | | | | | | |
| 18 | Fundamentals in Inorganic Chemistry | GÜ | 1 | | | | | | | | | | | | | | | |
| 19 | | | | **Mathematics II** | | | | | | **Mechanical Engineering: Design (part 2)** | | | **Environmental Technology** | | | | | |
| 20 | | | | Linear Algebra II | VL | 2 | | | | Team Project Design Methodology | PBL | 2 | Environmental Assessment | VL | 2 | | | |
| 21 | **Introduction into Energy and Environmental Engineering** | | | Linear Algebra II | GÜ | 1 | | | | Mechanical Design Project II | PBL | 3 | Environmental Assessment | GÜ | 1 | | | |
| 22 | Introduction to Energy and Environmental Engineering | PBL | 4 | Linear Algebra II | HÜ | 1 | **Mathematics III** | | | | | | | | | | | |
| 23 | | | | Analysis II | VL | 2 | Analysis III | VL | 2 | **Fundamentals of Materials Science (part 2)** | | | **Environmental Technology (part 1)** | | | | | |
| 24 | Physics-Lab for EUT | PR | 2 | Analysis II | HÜ | 1 | Analysis III | GÜ | 1 | Fundamentals of Materials Science II | VL | 2 | Environmental Technologie | VL | 2 | | | |
| 25 | | | | Analysis II | GÜ | 1 | Analysis III | HÜ | 1 | | | | | | | | | |
| 26 | | | | | | | Differential Equations 1 | VL | 2 | | | | **Advanced Mechanical Engineering Design (part 1)** | | | | | |
| 27 | | | | **Organic Chemistry** | | | Differential Equations 1 | GÜ | 1 | | | | Advanced Mechanical Engineering Design I | VL | 2 | | | |
| 28 | | | | Organic Chemistry | VL | 4 | Differential Equations 1 | HÜ | 1 | | | | Advanced Mechanical Engineering Design I | HÜ | 2 | | | |
| 29 | | | | Organic Chemistry | PR | 3 | | | | | | | | | | | | |
| 30 | | | | | | | **Fundamentals of Materials Science (part 1)** | | | | | | **Mechanics III (Dynamics)** | | | | | |
| 31 | | | | | | | Fundamentals of Materials Science I | VL | 2 | | | | Mechanics III | VL | 3 | | | |
| 32 | | | | | | | Physical and Chemical Basics of Materials Science | VL | 2 | | | | Mechanics III | GÜ | 2 | | | |
| 33 | | | | | | | | | | | | | Mechanics III | HÜ | 1 | | | |
| 34 | | | | | | | | | | | | | **Reciprocating Machinery (part 1)** | | | | | |
| | | | | | | | | | | | | | Fundamentals of Reciprocating Engines and Turbomachinery - Part Reciprocating Engines | VL | 1 | | | |
| | | | | | | | | | | | | | Fundamentals of Reciprocating Engines and Turbomachinery - Part Reciprocating Engines | HÜ | 1 | | | |

Non-technical Courses for Bachelors (from catalogue) - 6LP

The choice of courses from the catalogue is flexible (depends on the semestral work load), provided the necessary number of required credits is reached.