# Course of Study General Engineering Science (English program, 7 semester) (Study Cohort w16)

Sample course plan B Bachelor General Engineering Science (English program, 7 semester) (GESBS(7))
Specialisation Mechanical Engineering, Focus Energy Systems

Legend:

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| Core qualification Compulsory | Specialisation Compulsory | Focus Compulsory | Thesis Compulsory |
| Core qualification Elective Compulsory | Specialisation Elective Compulsory | Focus Elective Compulsory | Interdisciplinary complement |

| 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 | Semester 7 | Form | Hrs/wk |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Chemistry (GES)** | | | **Fundamentals of Mechanical Engineering Design** | | | **Technical Thermodynamics II** | | | **Mechanical Engineering: Design (part 2)** | | | **Introduction to Control Systems** | | | **Foundations of Management** | | | **Advanced Internship GES** | | |
| 2 | Chemistry I | VL | 2 | Fundamentals of Mechanical Engineering Design | VL | 2 | Technical Thermodynamics II | VL | 2 | Team Project Design Methodology | PBL | 2 | Introduction to Control Systems | VL | 2 | Introduction to Management | VL | 3 | | | |
| 3 | Chemistry II | VL | 2 | | | | Technical Thermodynamics II | HÜ | 1 | Mechanical Design Project II | TT | 3 | Introduction to Control Systems | UE | 2 | Management Tutorial | HÜ | 2 | | | |
| | Chemistry I | HÜ | 1 | Fundamentals of Mechanical Engineering Design | HÜ | 2 | | | | | | | | | | | | | | | |
| | Chemistry II | HÜ | 1 | | | | Technical Thermodynamics II | UE | 1 | **Fundamentals of Materials Science (part 2)** | | | | | | | | | | | |
| 4 | | | | | | | | | | Fundamentals of Materials Science II | VL | 2 | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | **Fluid Dynamics** | | | | | | | | | | | |
| 7 | **Linear Algebra** | | | **Technical Thermodynamics I** | | | **Mathematics III** | | | Fluid Mechanics | VL | 3 | **Measurement Technology for Mechanical and Process Engineers** | | | **Advanced Mechanical Engineering Design (part 2)** | | | | | |
| 8 | Linear Algebra | VL | 4 | Technical Thermodynamics I | VL | 2 | Analysis III | VL | 2 | Fluid Mechanics | HÜ | 2 | Measurement Technology for Mechanical and Process Engineers | VL | 2 | Advanced Mechanical Engineering Design II | VL | 2 | | | |
| 9 | Linear Algebra | HÜ | 2 | Technical Thermodynamics I | HÜ | 1 | Analysis III | UE | 1 | | | | Measurement Technology for Mechanical and Process Engineers | HÜ | 1 | Advanced Mechanical Engineering Design II | HÜ | 2 | | | |
| | Linear Algebra | UE | 2 | Technical Thermodynamics I | UE | 1 | Analysis III | HÜ | 1 | | | | | | | | | | | | |
| 10 | | | | | | | Differential Equations 1 | VL | 2 | | | | | | | **Reciprocating Machinery (part 2)** | | | | | |
| 11 | | | | | | | Differential Equations 1 | UE | 1 | | | | | | | Internal Combustion Engines I | VL | 2 | | | |
| 12 | | | | | | | Differential Equations 1 | HÜ | 1 | **Mechanics IV (Kinetics II, Oscillations, Analytical Mechanics, Multibody Systems)** | | | | | | Internal Combustion Engines I | HÜ | 1 | | | |
| 13 | | | | **Mathematical Analysis** | | | | | | Mechanics IV | VL | 3 | **Advanced Mechanical Engineering Design (part 1)** | | | | | | | | |
| 14 | | | | Mathematical Analysis | VL | 4 | | | | Mechanics IV | UE | 2 | Advanced Mechanical Engineering Design I | VL | 2 | **Fundamentals of Production and Quality Management** | | | | | |
| 15 | **Electrical Engineering I** | | | Mathematical Analysis | HÜ | 2 | **Mechanics III (GES)** | | | Mechanics IV | HÜ | 1 | Advanced Mechanical Engineering Design I | HÜ | 2 | Production Process Organization | VL | 2 | | | |
| | Electrical Engineering I | VL | 3 | Mathematical Analysis | UE | 2 | Mechanics III | HÜ | 1 | | | | | | | Quality Management | VL | 2 | | | |
| | Electrical Engineering I | UE | 2 | | | | Mechanics III | UE | 2 | | | | **Heat Transfer** | | | | | | | | |
| 16 | | | | | | | Mechanics III | VL | 3 | | | | Heat Transfer | VL | 3 | | | | | | |
| 17 | | | | | | | | | | | | | Heat Transfer | HÜ | 2 | | | | | | |
| 18 | | | | | | | | | | **Signals and Systems** | | | | | | **Renewables and Energy Systems** | | | | | |
| 19 | | | | | | | | | | Signals and Systems | VL | 3 | | | | Renewable Energy | VL | 2 | | | |
| 20 | | | | | | | | | | Signals and Systems | HÜ | 1 | | | | Energy Systems and Energy Industry | VL | 2 | | | |
| 21 | **Mechanics I (GES)** | | | **Electrical Engineering II** | | | **Computer Engineering** | | | | | | **Reciprocating Machinery (part 1)** | | | Power Industry | VL | 1 | **Bachelor Thesis** | | |
| 22 | Mechanics I | VL | 2 | Electrical Engineering II | VL | 3 | Computer Engineering | VL | 3 | | | | Fundamentals of Reciprocating Engines | VL | 1 | | | | | | |
| 23 | Mechanics I | HÜ | 3 | Electrical Engineering II | UE | 2 | Computer Engineering | UE | 1 | | | | | | | | | | | | |

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| | | | | | and Turbomachinery - Part Reciprocating Engines<br>Fundamentals of Reciprocating Engines and Turbomachinery - Part Reciprocating Engines HÜ 1 | Renewable Energy UE 1 | |
| 24 | | | | | | | |
| 25 | | | | | | | |
| 26 | | | | | | | |
| 27 | | | | | | | |
| 28 | **Programming in C**<br>Programming in C VL 1<br>Programming in C PR 1 | **Mechanics II (GES)**<br>Mechanics II VL 2<br>Mechanics II HÜ 2 | **Mechanical Engineering: Design (part 1)**<br>Embodiment Design and 3D-CAD VL 2<br>Mechanical Design Project I TT 3 | | **Gas and Steam Power Plants**<br>Gas and Steam Power Plants VL 3<br>Gas and Steam Power Plants HÜ 2 | | |
| 29 | **Physics for Engineers (GES)**<br>Physics for Engineers VL 2<br>Physics for Engineers UE 1 | | | | | | |
| 30 | | | **Fundamentals of Materials Science (part 1)**<br>Fundamentals of Materials Science I VL 2<br>Physical and Chemical Basics of Materials Science VL 2 | | | | |
| 31 | | | | | | | |
| 32 | | | | | | | |
| 33 | | | | | | | |

Nontechnical Complementary 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.