# Course of Study General Engineering Science (German program, 7 semester) (Study Cohort w19)

Sample course plan T Bachelor General Engineering Science (German program, 7 semester) (AIWBS(7))
Specialisation Computer Science

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** | | | **Electrical Engineering II: Alternating Current Networks and Basic Devices** | | | **Technical Thermodynamics II** | | | **Objectoriented Programming, Algorithms and Data Structures** | | | **Introduction to Control Systems** | | | **Foundations of Management** | | | **Advanced Internship GES** | | |
| 2 | Chemistry I | VL | 2 | Electrical Engineering II: Alternating Current Networks and Basic Devices | VL | 3 | Technical Thermodynamics II | VL | 2 | Objectoriented Programming, Algorithms and Data Structures | VL | 4 | Introduction to Control Systems | VL | 2 | Introduction to Management | VL | 3 | | | |
| 3 | Chemistry II | VL | 2 | | | | Technical Thermodynamics II | HÜ | 1 | | | | | | | Management Tutorial | HÜ | 2 | | | |
| 4 | Chemistry I | HÜ | 1 | | | | Technical Thermodynamics II | UE | 1 | | | | Introduction to Control Systems | UE | 2 | | | | | | |
| 5 | Chemistry II | HÜ | 1 | | | | | | | | | | | | | | | | | | |
| 6 | | | | Electrical Engineering II: Alternating Current Networks and Basic Devices | UE | 2 | | | | Objectoriented Programming, Algorithms and Data Structures | UE | 1 | | | | | | | | | |
| 7 | **Electrical Engineering I: Direct Current Networks and Electromagnetic Fields** | | | **Fundamentals of Mechanical Engineering Design** | | | **Mathematics III** | | | **Signals and Systems** | | | **Numerical Mathematics I** | | | **Operating Systems** | | | | | |
| 8 | Electrical Engineering I: Direct Current Networks and Electromagnetic Fields | VL | 3 | Fundamentals of Mechanical Engineering Design | VL | 2 | Analysis III | VL | 2 | Signals and Systems | VL | 3 | Numerical Mathematics I | VL | 2 | Operating Systems | VL | 2 | | | |
| 9 | | | | | | | Analysis III | UE | 1 | Signals and Systems | UE | 2 | | | | Operating Systems | UE | 2 | | | |
| 10 | | | | Fundamentals of Mechanical Engineering Design | HÜ | 2 | Analysis III | HÜ | 1 | | | | Numerical Mathematics I | UE | 2 | | | | | | |
| 11 | | | | | | | Differential Equations 1 | VL | 2 | | | | | | | | | | | | |
| 12 | Electrical Engineering I: Direct Current Networks and Electromagnetic Fields | UE | 2 | | | | Differential Equations 1 | UE | 1 | | | | | | | | | | | | |
| 13 | **Mathematics I** | | | **Technical Thermodynamics I** | | | Differential Equations 1 | HÜ | 1 | **Stochastics** | | | **Seminars Computer Science and Mathematics** | | | **Lab Cyber-Physical Systems** | | | | | |
| 14 | Linear Algebra I | VL | 2 | Technical Thermodynamics I | VL | 2 | | | | Stochastics | VL | 2 | Seminar Computational Engineering Science | SE | 2 | Lab Cyber-Physical Systems | PBL | 4 | | | |
| 15 | Linear Algebra I | UE | 1 | | | | **Mechanics III (Hydrostatics, Kinematics, Kinetics I)** | | | Stochastics | UE | 2 | Seminar Computational Mathematics/Computer Science | SE | 2 | | | | | | |
| 16 | Linear Algebra I | HÜ | 1 | Technical Thermodynamics I | HÜ | 1 | Mechanics III | VL | 3 | | | | Seminar Engineering Mathematics/Computer Science | SE | 2 | | | | | | |
| 17 | Analysis I | VL | 2 | Technical Thermodynamics I | UE | 1 | Mechanics III | UE | 2 | | | | | | | | | | | | |
| 18 | Analysis I | UE | 1 | | | | Mechanics III | HÜ | 1 | | | | | | | | | | | | |
| 19 | Analysis I | HÜ | 1 | **Mechanics II: Mechanics of Materials** | | | | | | **Graph Theory and Optimization** | | | **Computer Architecture** | | | | | | **Bachelor Thesis** | | |
| 20 | | | | Mechanics II | VL | 2 | | | | Graph Theory and Optimization | VL | 2 | Computer Architecture | VL | 2 | | | | | | |
| 21 | **Mechanics I (Statics)** | | | Mechanics II | UE | 2 | **Computer Engineering** | | | Graph Theory and Optimization | UE | 2 | Computer Architecture | PBL | 2 | | | | | | |
| 22 | Mechanics I | VL | 2 | Mechanics II | HÜ | 2 | Computer Engineering | VL | 3 | | | | Computer Architecture | UE | 1 | | | | | | |
| 23 | Mechanics I | UE | 2 | | | | Computer Engineering | UE | 1 | | | | | | | | | | | | |
| 24 | Mechanics I | HÜ | 1 | **Mathematics II** | | | | | | **Embedded Systems** | | | **Computernetworks and Internet Security** | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | | | | |
| 26 | | | | Linear Algebra II | VL | 2 | | | | Embedded Systems | VL | 3 | | | | | | | | | |

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| 27 | **Programming in C** | Linear Algebra II UE 1 | **Discrete Algebraic Structures** | Embedded Systems UE 1 | Computer Networks and VL 3<br>Internet Security | |
| 28 | Programming in C VL 1<br>Programming in C PR 1 | Linear Algebra II HÜ 1<br>Analysis II VL 2 | Discrete Algebraic Structures VL 2 | | Computer Networks and UE 1<br>Internet Security | |
| 29 | **Physics for Engineers (AIW)** | Analysis II HÜ 1 | Discrete Algebraic Structures UE 2 | | | |
| 30 | Physics for Engineers VL 2 | Analysis II UE 1 | | | | |
| 31 | Physics for Engineers UE 1 | | | | | |
| 32 | | | | | | |

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.