# Course of Study Mechanical Engineering (Study Cohort w23)

Sample course plan C  Bachelor Mechanical Engineering (MBBS)
Specialisation Materials in Engineering Sciences

Legend

| | | | |
|---|---|---|---|
| Core Qualification Compulsory | Specialisation Compulsory | Focus Compulsory | Thesis Compulsory |
| Core Qualification Elective Compulsory | Specialisation Elective Compulsory | Focus Elective Compulsory | Interdisciplinary complement |

LP

| | | | | | |
|---|---|---|---|---|---|
| 1 | **Mathematics I**<br>Mathematics I VL 4<br>Mathematics I HÜ 2<br>Mathematics I GÜ 2 | **Fundamentals of Mechanical Engineering Design**<br>Fundamentals of Mechanical Engineering Design VL 2<br>Fundamentals of Mechanical Engineering Design HÜ 2 | **Advanced Mechanical Engineering Design (part 1)**<br>Advanced Mechanical Engineering Design I VL 2<br>Advanced Mechanical Engineering Design I HÜ 2 | **Advanced Mechanical Engineering Design (part 2)**<br>Advanced Mechanical Engineering Design II VL 2<br>Advanced Mechanical Engineering Design II HÜ 2 | **Advanced Mechanical Design Project**<br>Advanced Mechanical Design Project PBL 4 | **Foundations of Management**<br>Introduction to Management VL 3<br>Management Tutorial GÜ 2 |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | **Mechanical Engineering: Design (part 1)**<br>Embodiment Design and 3D-CAD Introduction and Practical Training VL 2<br>Mechanical Design Project I PBL 3 | **Mechanical Engineering: Design (part 2)**<br>Team Project Design Methodology PBL 2<br>Mechanical Design Project II PBL 3 | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | **Technical Thermodynamics I**<br>Technical Thermodynamics I VL 2<br>Technical Thermodynamics I HÜ 1<br>Technical Thermodynamics I GÜ 1 | **Basics of Electrical Engineering**<br>Basics of Electrical Engineering VL 3<br>Basics of Electrical Engineering GÜ 2 | **Fluid Dynamics**<br>Fluid Mechanics VL 3<br>Fluid Mechanics HÜ 2 | **Introduction to Control Systems**<br>Introduction to Control Systems VL 2<br>Introduction to Control Systems GÜ 2 | **Enhanced Fundamentals of Materials Science**<br>Materials for Energy Storage and Conversion VL 2<br>Enhanced Fundamentals: Ceramics and Polymers VL 2<br>Enhanced Fundamentals: Ceramics and Polymers HÜ 1 |
| 8 | | | | | | |
| 9 | **Fundamentals of Materials Science**<br>Fundamentals of Materials Science II VL 2<br>Fundamentals of Materials Science I VL 2<br>Physical and Chemical Basics of Materials Science VL 2 | | | | | |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | **Production Engineering**<br>Production Engineering I VL 2<br>Production Engineering II VL 2<br>Production Engineering II HÜ 1<br>Production Engineering I HÜ 1 | **Technical Thermodynamics II**<br>Technical Thermodynamics II VL 2<br>Technical Thermodynamics II HÜ 1<br>Technical Thermodynamics II GÜ 1 | **Computational Mechanics**<br>Computational Multibody Dynamics IV 2<br>Computational Mechanics GÜ 2<br>Computational Stuctural Mechanics IV 2 | **Measurement Technology for Mechanical Engineers**<br>Measurement Technology for Mechanical Engineering VL 2<br>Measurement Technology for Mechanical Engineering PR 2<br>Practical Course: Measurement and Control Systems PR 2 | **Materials Engineering: Materials Selection, Processing and Modelling**<br>Materials Selection and Processing VL 3<br>Materials and Process Modeling VL 3 |
| 14 | | | | | | |
| 15 | **Team Project MB**<br>Team Project MB PBL 6 | | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | **Mathematics II**<br>Mathematics II VL 4<br>Mathematics II HÜ 2<br>Mathematics II GÜ 2 | **Mathematics III**<br>Analysis III VL 2<br>Analysis III GÜ 1<br>Analysis III HÜ 1<br>Differential Equations 1 VL 2<br>Differential Equations 1 GÜ 1<br>Differential Equations 1 HÜ 1 | **Advanced Materials for Sustainability**<br>Advanced Materials Characterization VL 2<br>Advanced Materials for Sustainability VL 2<br>Advanced Materials for Sustainability HÜ 2 | **Materials Science Laboratory**<br>Companion Lecture for Materials Science Laboratory VL 2<br>Material Science Laboratory PR 4 | **Bachelor Thesis** |
| 20 | | | | | | |
| 21 | **Computer Science for Engineers - Introduction and Overview**<br>Computer Science for Engineers - Introduction and Overview VL 3<br>Computer Science for Engineers - Introduction and Overview GÜ 2 | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | **Engineering Mechanics I (Stereostatics)**<br>Engineering Mechanics I VL 2<br>Engineering Mechanics I GÜ 2<br>Engineering Mechanics I HÜ 1 | **Engineering Mechanics II (Elastostatics)**<br>Engineering Mechanics II VL 2<br>Engineering Mechanics II GÜ 2<br>Engineering Mechanics II HÜ 2 | **Engineering Mechanics III (Dynamics)**<br>Engineering Mechanics III VL 3<br>Engineering Mechanics III GÜ 2<br>Engineering Mechanics III HÜ 1 | | | |
| 28 | | | | | | |
| 29 | | | | | | |
| 30 | | | | | | |
| 31 | | | | | | |
| 32 | | | | | | |

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.