# Course of Study Mechanical Engineering (Study Cohort w20)

Sample course plan C  Bachelor Mechanical Engineering (MBBS)

Specialisation Theoretical Mechanical Engineering

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 | | | | | |
|---|---|---|---|---|---|
| 1 | **Production Engineering (part 1)**<br>Production Engineering I VL 2<br>Production Engineering I HÜ 1 | **Production Engineering (part 2)**<br>Production Engineering II VL 2<br>Production Engineering II HÜ 1 | **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 | **Computer Science for Mechanical Engineers**<br>Computer Science for Mechanical Engineers VL 3<br>Computer Science for Mechanical Engineers GÜ 2 | **Fundamentals of Materials Science (part 2)**<br>Fundamentals of Materials Science II VL 2 | **Mechanical Engineering: Design (part 1)**<br>Embodiment Design and 3D-CAD 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 | | **Fundamentals of Mechanical Engineering Design**<br>Fundamentals of Mechanical Engineering Design VL 2<br>Fundamentals of Mechanical Engineering Design HÜ 2 | | | | |
| 7 | | | **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 | **Modeling, Simulation and Optimization (EN)**<br>Modeling, Simulation and Optimization IV 4 |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | **Mathematics I**<br>Linear Algebra I VL 2 | | | | | |
| 11 | Linear Algebra I GÜ 1 | | | | | |
| 12 | Linear Algebra I HÜ 1 | **Technical Thermodynamics I**<br>Technical Thermodynamics I VL 2 | | | | |
| 13 | Analysis I VL 2 | Technical Thermodynamics I HÜ 1 | **Technical Thermodynamics II**<br>Technical Thermodynamics II VL 2 | **Mechanics IV (Oscillations, Analytical Mechanics, Multibody Systems, Numerical Mechanics)**<br>Mechanics IV VL 3 | **Measurement Technology for Mechanical Engineers**<br>Measurement Technology for Mechanical Engineering VL 2 | **Bachelor Thesis** |
| 14 | Analysis I GÜ 1 | Technical Thermodynamics I GÜ 1 | Technical Thermodynamics II HÜ 1 | Mechanics IV GÜ 2 | Measurement Technology for Mechanical Engineering HÜ 1 | |
| 15 | Analysis I HÜ 1 | | Technical Thermodynamics II GÜ 1 | Mechanics IV HÜ 1 | Practical Course: Measurement and Control Systems PR 2 | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | **Mechanics I (Statics)**<br>Mechanics I VL 2 | **Mechanics II: Mechanics of Materials**<br>Mechanics II VL 2 | | | | |
| 19 | Mechanics I GÜ 2 | Mechanics II GÜ 2 | **Mathematics III**<br>Analysis III VL 2 | **Advanced Materials**<br>Advanced Materials Characterization VL 2 | **Numerical Mathematics I**<br>Numerical Mathematics I VL 2 | |
| 20 | Mechanics I HÜ 1 | Mechanics II HÜ 2 | Analysis III GÜ 1 | Advanced Materials Design VL 2 | Numerical Mathematics I GÜ 2 | |
| 21 | | | Analysis III HÜ 1 | Advanced Materials Design HÜ 2 | | |
| 22 | | | Differential Equations 1 VL 2 | | | |
| 23 | | | Differential Equations 1 GÜ 1 | | | |
| 24 | **Fundamentals of Materials Science (part 1)**<br>Fundamentals of Materials Science I VL 2 | **Mathematics II**<br>Linear Algebra II VL 2 | Differential Equations 1 HÜ 1 | | | |
| 25 | Physical and Chemical Basics of Materials Science VL 2 | Linear Algebra II GÜ 1 | | | **Heat Transfer**<br>Heat Transfer VL 3 | |
| 26 | | Linear Algebra II HÜ 1 | | | Heat Transfer HÜ 2 | |
| 27 | | Analysis II VL 2 | | | | |
| 28 | **Team Project MB**<br>Team Project MB PBL 6 | Analysis II HÜ 1 | **Mechanics III (Dynamics)**<br>Mechanics III VL 3 | | | |
| 29 | | Analysis II GÜ 1 | Mechanics III GÜ 2 | | | |
| 30 | | | Mechanics III HÜ 1 | | | |
| 31 | | | | | | |
| 32 | | | | | | |
| 33 | | | | | | |

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.