# Course of Study Mechanical Engineering (Study Cohort w14)

Sample course plan A Bachelor Mechanical Engineering (MBBS)
Specialisation Theoretical Mechanical Engineering

Legend:

| | | | |
|---|---|---|---|
| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Production Engineering (part 1)** | | | **Production Engineering (part 2)** | | | **Advanced Mechanical Engineering Design (part 1)** | | | **Advanced Mechanical Engineering Design (part 2)** | | | **Advanced Mechanical Design Project** | | | **Foundations of Management** | | |
| 2 | Production Engineering I | VL | 2 | Production Engineering II | VL | 2 | Advanced Mechanical Engineering Design I | VL | 2 | Advanced Mechanical Engineering Design II | VL | 2 | Advanced Mechanical Design Project | TT | 4 | Introduction to Management | VL | 3 |
| 3 | Production Engineering I | HÜ | 1 | Production Engineering II | HÜ | 1 | Advanced Mechanical Engineering Design I | HÜ | 2 | Advanced Mechanical Engineering Design II | HÜ | 2 | | | | Project Entrepreneurship | PBL | 2 |
| 4 | **Informatik für Maschinenbau-Ingenieure (part 1)** | | | **Informatik für Maschinenbau-Ingenieure (part 2)** | | | **Mechanical Engineering: Design (part 1)** | | | **Mechanical Engineering: Design (part 2)** | | | | | | | | |
| 5 | Informatik für Maschinenbau-Ingenieure I | VL | 2 | Informatik für Maschinenbau-Ingenieure II | VL | 2 | Embodiment Design and 3D-CAD | VL | 2 | Team Project Design Methodology | PBL | 2 | | | | | | |
| | Informatik für Maschinenbau-Ingenieure I | UE | 2 | Informatik für Maschinenbau-Ingenieure II | UE | 2 | Mechanical Design Project I | TT | 3 | Mechanical Design Project II | TT | 3 | | | | | | |
| 6 | Informatik für Maschinenbau-Ingenieure I | HÜ | 1 | **Fundamentals of Materials Science (part 2)** | | | | | | | | | | | | | | |
| 7 | | | | Fundamentals of Materials Science II | VL | 2 | **Basics of Electrical Engineering** | | | **Fluid Dynamics** | | | **Introduction to Control Systems** | | | **Mathematics IV** | | |
| 8 | **Mathematics I** | | | **Fundamentals of Mechanical Engineering Design** | | | Basics of Electrical Engineering | VL | 3 | Fluid Mechanics | VL | 3 | Introduction to Control Systems | VL | 2 | Complex Functions | VL | 2 |
| 9 | Linear Algebra I | VL | 2 | Fundamentals of Mechanical Engineering Design | VL | 2 | Basics of Electrical Engineering | UE | 2 | Fluid Mechanics | HÜ | 1 | Introduction to Control Systems | UE | 2 | Complex Functions | UE | 1 |
| 10 | Linear Algebra I | UE | 1 | Fundamentals of Mechanical Engineering Design | HÜ | 2 | | | | | | | | | | Complex Functions | HÜ | 1 |
| 11 | Linear Algebra I | HÜ | 1 | | | | | | | | | | | | | Differential Equations 2 | VL | 2 |
| 12 | Analysis I | VL | 2 | **Technical Thermodynamics I** | | | | | | | | | | | | Differential Equations 2 | UE | 1 |
| 13 | Analysis I | UE | 1 | Technical Thermodynamics I | VL | 2 | **Technical Thermodynamics II** | | | **Mechanics IV (Kinetics II, Oscillations, Analytical Mechanics, Multibody Systems)** | | | **Measurement Technology for Mechanical and Process Engineers** | | | Differential Equations 2 | HÜ | 1 |
| 14 | Analysis I | HÜ | 1 | Technical Thermodynamics I | HÜ | 1 | Technical Thermodynamics II | VL | 2 | Mechanics IV | VL | 3 | Measurement Technology for Mechanical and Process Engineers | VL | 2 | **Bachelor Thesis** | | |
| 15 | | | | Technical Thermodynamics I | UE | 1 | Technical Thermodynamics II | HÜ | 1 | Mechanics IV | UE | 2 | | | | | | |
| 16 | **Mechanics I (Statics)** | | | | | | Technical Thermodynamics II | UE | 1 | Mechanics IV | HÜ | 1 | Measurement Technology for Mechanical and Process Engineers | HÜ | 1 | | | |
| 17 | Mechanics I | VL | 2 | | | | | | | | | | Practical Course: Measurement and Control Systems | PR | 2 | | | |
| 18 | Mechanics I | UE | 2 | | | | **Mathematics III** | | | **Electrical Machines** | | | **Simulation of Dynamic Systems and Reliability** | | | | | |
| 19 | Mechanics I | HÜ | 1 | | | | Analysis III | VL | 2 | Electrical Machines | VL | 3 | Simulation of Dynamic Systems | VL | 2 | | | |
| 20 | | | | | | | Analysis III | UE | 1 | Electrical Machines | HÜ | 2 | Reliability of Dynamic Systems | VL | 2 | | | |
| 21 | | | | **Mechanics II: Mechanics of Materials** | | | Analysis III | HÜ | 1 | | | | Simulation of Dynamic Systems | UE | 1 | | | |
| 22 | **Fundamentals of Materials Science (part 1)** | | | Mechanics II | VL | 2 | Differential Equations 1 | VL | 2 | | | | | | | | | |
| 23 | Fundamentals of Materials | VL | 2 | Mechanics II | UE | 2 | Differential Equations 1 | UE | 1 | | | | | | | | | |
| 24 | Science I | | | | | | Differential Equations 1 | HÜ | 1 | | | | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Physical and Chemical Basics of Materials Science VL 2 | | | | Reliability of Dynamic Systems UE 1 | |
| 25 | | | | | | |
| 26 | **Team Project MB** | **Mathematics II** | | | **Heat Transfer** | |
| 27 | Team Project MB TT 6 | Linear Algebra II VL 2 | **Mechanics III (Hydrostatics, Kinematics, Kinetics I)** | | Heat Transfer VL 3 | |
| 28 | | Linear Algebra II UE 1 | Mechanics III VL 3 | | Heat Transfer HÜ 2 | |
| 29 | | Linear Algebra II HÜ 1 | Mechanics III UE 2 | | | |
| 30 | | Analysis II VL 2 | Mechanics III HÜ 1 | | | |
| 31 | | Analysis II HÜ 1 | | | | |
| 32 | | Analysis II UE 1 | | | | |
| 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.