# Course of Study Mechanical Engineering (Study Cohort w18)

Sample course plan A  Bachelor Mechanical Engineering (MBBS)
Specialisation Aircraft Systems 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 | 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 | PBL | 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 | | | | Management Tutorial | GÜ | 2 |
| 4 | **Computer Science for Mechanical Engineers** | | | **Fundamentals of Materials Science (part 2)** | | | **Mechanical Engineering: Design (part 1)** | | | **Mechanical Engineering: Design (part 2)** | | | | | | | | |
| 5 | Computer Science for Mechanical Engineers | VL | 3 | Fundamentals of Materials Science II | VL | 2 | Embodiment Design and 3D-CAD | VL | 2 | Team Project Design Methodology | PBL | 2 | | | | | | |
| 6 | Computer Science for Mechanical Engineers | GÜ | 2 | **Fundamentals of Mechanical Engineering Design** | | | Mechanical Design Project I | PBL | 3 | Mechanical Design Project II | PBL | 3 | | | | | | |
| 7 | | | | Fundamentals of Mechanical Engineering Design | VL | 2 | | | | | | | | | | | | |
| 8 | | | | Fundamentals of Mechanical Engineering Design | HÜ | 2 | **Basics of Electrical Engineering** | | | **Fluid Dynamics** | | | **Introduction to Control Systems** | | | **Integrated Product Development and Lightweight Design** | | |
| 9 | | | | | | | Basics of Electrical Engineering | VL | 3 | Fluid Mechanics | VL | 3 | Introduction to Control Systems | VL | 2 | Integrated Product Development I | VL | 2 |
| 10 | **Mathematics I** | | | | | | Basics of Electrical Engineering | GÜ | 2 | Fluid Mechanics | HÜ | 2 | Introduction to Control Systems | GÜ | 2 | Development of Lightweight Design Products | VL | 2 |
| 11 | Linear Algebra I | VL | 2 | | | | | | | | | | | | | CAE-Team Project | PBL | 2 |
| 12 | Linear Algebra I | GÜ | 1 | **Technical Thermodynamics I** | | | | | | | | | | | | | | |
| 13 | Linear Algebra I | HÜ | 1 | Technical Thermodynamics I | VL | 2 | **Technical Thermodynamics II** | | | **Mechanics IV (Kinetics II, Oscillations, Analytical Mechanics, Multibody Systems)** | | | **Measurement Technology for Mechanical Engineers** | | | **Aeronautical Systems** | | |
| 14 | Analysis I | VL | 2 | Technical Thermodynamics I | HÜ | 1 | Technical Thermodynamics II | VL | 2 | Mechanics IV | VL | 3 | Measurement Technology for Mechanical Engineering | VL | 2 | Air Transportation Systems | VL | 2 |
| 15 | 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 | Fundamentals of Aircraft Systems | VL | 2 |
| 16 | Analysis I | HÜ | 1 | | | | Technical Thermodynamics II | GÜ | 1 | Mechanics IV | HÜ | 1 | Practical Course: Measurement and Control Systems | PR | 2 | Fundamentals of Aircraft Systems | GÜ | 1 |
| 17 | | | | | | | | | | | | | | | | Air Transportation Systems | HÜ | 1 |
| 18 | **Mechanics I (Statics)** | | | **Mechanics II: Mechanics of Materials** | | | **Mathematics III** | | | **Electrical Machines and Actuators** | | | **Simulation and Design of Mechatronic Systems** | | | **Bachelor Thesis** | | |
| 19 | Mechanics I | VL | 2 | Mechanics II | VL | 2 | Analysis III | VL | 2 | Electrical Machines and Actuators | VL | 3 | Simulation and Design of Mechatronic Systems | VL | 2 | | | |
| 20 | Mechanics I | GÜ | 2 | Mechanics II | GÜ | 2 | Analysis III | GÜ | 1 | Electrical Machines and Actuators | HÜ | 2 | Simulation and Design of Mechatronic Systems | HÜ | 1 | | | |
| 21 | Mechanics I | HÜ | 1 | Mechanics II | HÜ | 2 | Analysis III | HÜ | 1 | | | | Simulation and Design of Mechatronic Systems | PR | 1 | | | |
| 22 | | | | | | | Differential Equations 1 | VL | 2 | | | | | | | | | |
| 23 | | | | | | | Differential Equations 1 | GÜ | 1 | | | | | | | | | |
| 24 | **Fundamentals of Materials Science (part 1)** | | | **Mathematics II** | | | Differential Equations 1 | HÜ | 1 | | | | | | | | | |
| 25 | Fundamentals of Materials Science I | VL | 2 | Linear Algebra II | VL | 2 | | | | | | | | | | | | |
| 26 | Physical and Chemical Basics of Materials Science | VL | 2 | Linear Algebra II | GÜ | 1 | | | | | | | | | | | | |
| 27 | | | | Linear Algebra II | HÜ | 1 | **Mechanics III (Hydrostatics, Kinematics, Kinetics I)** | | | | | | | | | | | |
| 28 | **Team Project MB** | | | Analysis II | VL | 2 | Mechanics III | VL | 3 | | | | | | | | | |
| 29 | Team Project MB | PBL | 6 | Analysis II | HÜ | 1 | Mechanics III | GÜ | 2 | | | | | | | | | |
| 30 | | | | Analysis II | GÜ | 1 | Mechanics III | HÜ | 1 | | | | | | | | | |
| 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.