

Course of Study Mechanical Engineering (Study Cohort w23)

Sample course plan A Bachelor Mechanical Engineering (MBBS) Dual study program

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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 |

| Specialisation Energy Systems | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|---|-----|--------------------------|---|----|---|-----------------------------|---|-----|---|------------------|---|-----|---|----|---|-----|---|----------------------------------|---|----|---|
| 1 | Mathematics I | | | Fundamentals of Mechanical Engineering Design | | | | Advanced Mechanical Engineering Design (part 1) | | | | Advanced Mechanical Engineering Design (part 2) | | | | Advanced Mechanical Design Project | | | Foundations of Management | | | |
| 2 | Mathematics I | VL | 4 | Fundamentals of Mechanical Engineering Design | 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 | Mathematics I | HÜ | 2 | Fundamentals of Mechanical Engineering Design | HÜ | 2 | | Advanced Mechanical Engineering Design I | HÜ | 2 | | Advanced Mechanical Engineering Design II | HÜ | 2 | | | | | Management Tutorial | GÜ | 2 | |
| 4 | Mathematics I | GÜ | 2 | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | Mechanical Engineering: Design (part 1) | | | | Mechanical Engineering: Design (part 2) | | | | | | | | | | |
| 6 | | | | | | | | Embodiment Design and 3D-CAD Introduction and Practical Training | VL | 2 | | Team Project Design Methodology | PBL | 2 | | | | | | | | |
| 7 | | | | | | | | Mechanical Design Project I | PBL | 3 | | Mechanical Design Project II | PBL | 3 | | | | | | | | |
| 8 | | | | Technical Thermodynamics I | | | | Basics of Electrical Engineering | | | | Fluid Dynamics | | | | Introduction to Control Systems | | | | Reciprocating Machinery (part 2) | | |
| 9 | Fundamentals of Materials Science | | | Technical Thermodynamics I | VL | 2 | | Basics of Electrical Engineering | VL | 3 | | Fluid Mechanics | VL | 3 | | Introduction to Control Systems | VL | 2 | | Internal Combustion Engines I | VL | 2 |
| 10 | Fundamentals of Materials Science II | VL | 2 | Technical Thermodynamics I | HÜ | 1 | | Basics of Electrical Engineering | GÜ | 2 | | Fluid Mechanics | HÜ | 2 | | Introduction to Control Systems | GÜ | 2 | | Internal Combustion Engines I | HÜ | 1 |
| 11 | Fundamentals of Materials Science I | VL | 2 | Technical Thermodynamics I | GÜ | 1 | | | | | | | | | | | | | | | | |
| 12 | Physical and Chemical Basics of Materials Science | VL | 2 | | | | | | | | | | | | | | | | | | | |
| 13 | | | | Production Engineering | | | | Technical Thermodynamics II | | | | Practical module 4 (dual study program, Bachelor's degree) | | | | Measurement Technology for Mechanical Engineers | | | | Bachelor thesis (dual study program) | | |
| 14 | | | Production Engineering I | VL | 2 | | Technical Thermodynamics II | VL | 2 | | Practical term 4 | 0 | | Measurement Technology for Mechanical Engineering | VL | 2 | | | | | | |
| 15 | Team Project MB | | | Production Engineering II | VL | 2 | | Technical Thermodynamics II | HÜ | 1 | | | | Measurement Technology for Mechanical Engineering | PR | 2 | | | | | | |
| 16 | Team Project MB | PBL | 6 | Production Engineering II | HÜ | 1 | | Technical Thermodynamics II | GÜ | 1 | | | | Practical Course: Measurement and Control Systems | PR | 2 | | | | | | |
| 17 | | | | Production Engineering I | HÜ | 1 | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | | | | | |
| 19 | | | | Mathematics II | | | | Mathematics III | | | | Computational Mechanics | | | | Practical module 5 (dual study program, Bachelor's degree) | | | | | | |
| 20 | | | | Mathematics II | VL | 4 | | Analysis III | VL | 2 | | Computational Multibody Dynamics | IV | 2 | | Practical term 5 | 0 | | | | | |
| 21 | Computer Science for Engineers - Introduction and Overview | | | Mathematics II | HÜ | 2 | | Analysis III | GÜ | 1 | | Computational Mechanics | GÜ | 2 | | | | | | | | |
| 22 | Computer Science for Engineers - Introduction and Overview | VL | 3 | Mathematics II | GÜ | 2 | | Differential Equations 1 | VL | 2 | | Computational Structural Mechanics | IV | 2 | | | | | | | | |
| 23 | Computer Science for Engineers - Introduction and Overview | GÜ | 2 | | | | | Differential Equations 1 | GÜ | 1 | | | | | | | | | | | | |
| 24 | Computer Science for Engineers - Introduction and Overview | GÜ | 2 | | | | | Differential Equations 1 | HÜ | 1 | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | Electrical Machines and Actuators | | | | Heat Transfer | | | | | | |
| 27 | Practical module 1 (dual study program, Bachelor's degree) | | | Practical module 2 (dual study program, Bachelor's degree) | | | | Practical module 3 (dual study program, Bachelor's degree) | | | | Electrical Machines and Actuators | VL | 3 | | Heat Transfer | VL | 3 | | | | |
| 28 | Practical term 1 | 0 | | Practical term 2 | 0 | | | Practical term 3 | 0 | | | Electrical Machines and Actuators | HÜ | 2 | | Heat Transfer | HÜ | 2 | | | | |
| 29 | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | | | | | | |
| 33 | Engineering Mechanics I (Stereostatics) | | | Engineering Mechanics II (Elastostatics) | | | | Engineering Mechanics III (Dynamics) | | | | | | | | Reciprocating Machinery (part 1) | | | | | | |
| 34 | Engineering Mechanics I | VL | 2 | Engineering Mechanics II | VL | 2 | | Engineering Mechanics III | VL | 3 | | | | | | Fundamentals of Reciprocating Engines and Turbomachinery - Part Reciprocating Engines | VL | 1 | | | | |
| 35 | Engineering Mechanics I | GÜ | 2 | Engineering Mechanics II | GÜ | 2 | | Engineering Mechanics III | GÜ | 2 | | | | | | Fundamentals of Reciprocating Engines and Turbomachinery - Part Reciprocating Engines | HÜ | 1 | | | | |
| 36 | Engineering Mechanics I | HÜ | 1 | Engineering Mechanics II | HÜ | 2 | | Engineering Mechanics III | HÜ | 1 | | | | | | Gas and Steam Power Plants | VL | 3 | | | | |
| 37 | | | | | | | | | | | | | | | | Gas and Steam Power Plants | HÜ | 1 | | | | |
| 38 | | | | | | | | | | | | | | | | | | | | | | |

Linking theory and practice (dual study program, Bachelor's degree) - 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.

