Course of Study Mechanical Engineering (Study Cohort w20)

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

Legend

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

Column 1 (rows 1–29)

Production Engineering (part 1)
| Production Engineering I | VL | 2 |
| Production Engineering I | HÜ | 1 |

Computer Science for Mechanical Engineers
| Computer Science for Mechanical Engineers | VL | 3 |
| Computer Science for Mechanical Engineers | GÜ | 2 |

Mathematics I
Linear Algebra I	VL	2
Linear Algebra I	GÜ	1
Linear Algebra I	HÜ	1
Analysis I	VL	2
Analysis I	GÜ	1
Analysis I	HÜ	1

Mechanics I (Statics)
Mechanics I	VL	2
Mechanics I	GÜ	2
Mechanics I	HÜ	1

Fundamentals of Materials Science (part 1)
| Fundamentals of Materials Science I | VL | 2 |
| Physical and Chemical Basics of Materials Science | VL | 2 |

Team Project MB
| Team Project MB | PBL | 6 |

Column 2

Production Engineering (part 2)
| Production Engineering II | VL | 2 |
| Production Engineering II | HÜ | 1 |

Fundamentals of Materials Science (part 2)
| Fundamentals of Materials Science II | VL | 2 |

Fundamentals of Mechanical Engineering Design
| Fundamentals of Mechanical Engineering Design | VL | 2 |
| Fundamentals of Mechanical Engineering Design | HÜ | 2 |

Technical Thermodynamics I
Technical Thermodynamics I	VL	2
Technical Thermodynamics I	HÜ	1
Technical Thermodynamics I	GÜ	1

Mechanics II: Mechanics of Materials
Mechanics II	VL	2
Mechanics II	GÜ	2
Mechanics II	HÜ	2

Mathematics II
Linear Algebra II	VL	2
Linear Algebra II	GÜ	1
Linear Algebra II	HÜ	1
Analysis II	VL	2
Analysis II	HÜ	1
Analysis II	GÜ	1

Column 3

Advanced Mechanical Engineering Design (part 1)
| Advanced Mechanical Engineering Design I | VL | 2 |
| Advanced Mechanical Engineering Design I | HÜ | 2 |

Mechanical Engineering: Design (part 1)
| Embodiment Design and 3D-CAD | VL | 2 |
| Mechanical Design Project I | PBL | 3 |

Basics of Electrical Engineering
| Basics of Electrical Engineering | VL | 3 |
| Basics of Electrical Engineering | GÜ | 2 |

Technical Thermodynamics II
Technical Thermodynamics II	VL	2
Technical Thermodynamics II	HÜ	1
Technical Thermodynamics II	GÜ	1

Mathematics III
Analysis III	VL	2
Analysis III	GÜ	1
Analysis III	HÜ	1
Differential Equations 1	VL	2
Differential Equations 1	GÜ	1
Differential Equations 1	HÜ	1

Mechanics III (Dynamics)
Mechanics III	VL	3
Mechanics III	GÜ	2
Mechanics III	HÜ	1

Column 4

Advanced Mechanical Engineering Design (part 2)
| Advanced Mechanical Engineering Design II | VL | 2 |
| Advanced Mechanical Engineering Design II | HÜ | 2 |

Mechanical Engineering: Design (part 2)
| Team Project Design Methodology | PBL | 2 |
| Mechanical Design Project II | PBL | 3 |

Fluid Dynamics
| Fluid Mechanics | VL | 3 |
| Fluid Mechanics | HÜ | 2 |

Mechanics IV (Oscillations, Analytical Mechanics, Multibody Systems, Numerical Mechanics)
Mechanics IV	VL	3
Mechanics IV	GÜ	2
Mechanics IV	HÜ	1

Mathematics IV
Complex Functions	VL	2
Complex Functions	GÜ	1
Complex Functions	HÜ	1
Differential Equations 2	VL	2
Differential Equations 2	GÜ	1
Differential Equations 2	HÜ	1

Electrical Machines and Actuators
| Electrical Machines and Actuators | VL | 3 |
| Electrical Machines and Actuators | HÜ | 2 |

Column 5

Advanced Mechanical Design Project
| Advanced Mechanical Design Project | PBL | 4 |

Introduction to Control Systems
| Introduction to Control Systems | VL | 2 |
| Introduction to Control Systems | GÜ | 2 |

Measurement Technology for Mechanical Engineers
Measurement Technology for Mechanical Engineering	VL	2
Measurement Technology for Mechanical Engineering	HÜ	1
Practical Course: Measurement and Control Systems	PR	2

Simulation and Design of Mechatronic Systems
Simulation and Design of Mechatronic Systems	VL	2
Simulation and Design of Mechatronic Systems	HÜ	1
Simulation and Design of Mechatronic Systems	PR	1

Column 6

Foundations of Management
| Introduction to Management | VL | 3 |
| Management Tutorial | GÜ | 2 |

Semiconductor Circuit Design
| Semiconductor Circuit Design | VL | 3 |
| Semiconductor Circuit Design | GÜ | 1 |

Bachelor Thesis

Rows numbered 1–33 (left margin)

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.