Course of Study Mechatronics (Study Cohort w20)

Sample course plan A Bachelor Mechatronics (MECBS)

Procedural Programming
Procedural Programming	VL	1
Procedural Programming	HÜ	1
Procedural Programming	PR	2

Electrical Engineering II: Alternating Current Networks and Basic Devices
| Electrical Engineering II: Alternating Current Networks and Basic Devices | VL | 3 |
| Electrical Engineering II: Alternating Current Networks and Basic Devices | GÜ | 2 |

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

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

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

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

Electrical Engineering III: Circuit Theory and Transients
| Circuit Theory | VL | 3 |
| Circuit Theory | GÜ | 2 |

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

Electrical Engineering I: Direct Current Networks and Electromagnetic Fields
| Electrical Engineering I: Direct Current Networks and Electromagnetic Fields | VL | 3 |
| Electrical Engineering I: Direct Current Networks and Electromagnetic Fields | GÜ | 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

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 |

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

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

Computer Engineering
| Computer Engineering | VL | 3 |
| Computer Engineering | GÜ | 1 |

Signals and Systems
| Signals and Systems | VL | 3 |
| Signals and Systems | GÜ | 2 |

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

Bachelor Thesis

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

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

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

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

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

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

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

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

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

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

Semester rows: 1–32

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.