Course of Study Mechatronics (Study Cohort w21)

Legend

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

Sample course plan B Bachelor Mechatronics (MECBS)

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

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 Introduction and Practical Training	VL	2
Mechanical Design Project I	PBL	3

Electrical Engineering III: Circuit Theory and Transients

Circuit Theory	VL	3
Circuit Theory	GÜ	2

Mechanical Engineering: Design (part 2)

Team Project Design Methodology	PBL	2
Mechanical Design Project II	PBL	3

Production Engineering (part 2)

Production Engineering II	VL	2
Production Engineering II	HÜ	1

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

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

Fundamentals of Mechanical Engineering Design

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

Production Engineering (part 1)

Production Engineering I	VL	2
Production Engineering I	HÜ	1

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

Mechanics I (Statics)

Mechanics I	VL	2
Mechanics I	GÜ	2
Mechanics I	HÜ	1

Mechanics II: Mechanics of Materials

Mechanics II	VL	2
Mechanics II	GÜ	2
Mechanics II	HÜ	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

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

Fundamentals of Materials Science (part 1)

Fundamentals of Materials Science I	VL	2
Physical and Chemical Basics of Materials Science	VL	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

Engineering Mechanics III (Dynamics)

Engineering Mechanics III	VL	3
Engineering Mechanics III	GÜ	2
Engineering Mechanics III	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	PR	2
Practical Course: Measurement and Control Systems	PR	2

Computer Science for Engineers - Introduction and Overview

Computer Science for Engineers - Introduction and Overview	VL	3
Computer Science for Engineers - Introduction and Overview	GÜ	2

Computer Science for Engineers - Programming Concepts, Data Handling & Communication

Computer Science for Engineers - Programming Concepts, Data Handling & Communication	VL	3
Computer Science for Engineers - Programming Concepts, Data Handling & Communication	GÜ	2

Computational Mechanics

Computational Multibody Dynamics	IV	2
Computational Mechanics	GÜ	2
Computational Stuctural Mechanics	IV	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

Fundamentals of Materials Science (part 2)

Fundamentals of Materials Science II	VL	2

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.