Course of Study General Engineering Science (English program) (Study Cohort w14)

Sample course plan A Bachelor General Engineering Science (English program) (GESBS)
Specialisation Mechanical Engineering, Focus Mechatronics

Legend:

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

Semester 1

Chemistry (GES)

Course	Form	Hrs/wk
Chemistry I	VL	2
Chemistry II	VL	2
Chemistry I	HÜ	1
Chemistry II	HÜ	1

Linear Algebra

Course	Form	Hrs/wk
Linear Algebra	VL	4
Linear Algebra	HÜ	2
Linear Algebra	UE	2

Electrical Engineering I

Course	Form	Hrs/wk
Electrical Engineering I	VL	3
Electrical Engineering I	UE	2

Mechanics I (GES)

Course	Form	Hrs/wk
Mechanics I	VL	2
Mechanics I	HÜ	3

Physics for Engineers (GES) (part 1)

Course	Form	Hrs/wk
Physics for Engineers	VL	2
Physics for Engineers	UE	1

Semester 2

Physics for Engineers (GES) (part 2)

Course	Form	Hrs/wk
Physics-Lab for ET/IIW-Engineers	PR	1

Fundamentals of Mechanical Engineering Design

Course	Form	Hrs/wk
Fundamentals of Mechanical Engineering Design	VL	2
Fundamentals of Mechanical Engineering Design	HÜ	2

Technical Thermodynamics I

Course	Form	Hrs/wk
Technical Thermodynamics I	VL	2
Technical Thermodynamics I	HÜ	1
Technical Thermodynamics I	UE	1

Mathematical Analysis

Course	Form	Hrs/wk
Mathematical Analysis	VL	4
Mathematical Analysis	HÜ	2
Mathematical Analysis	UE	2

Electrical Engineering II

Course	Form	Hrs/wk
Electrical Engineering II	VL	3
Electrical Engineering II	UE	2

Mechanics II (GES)

Course	Form	Hrs/wk
Mechanics II	VL	2
Mechanics II	HÜ	2

Semester 3

Technical Thermodynamics II

Course	Form	Hrs/wk
Technical Thermodynamics II	VL	2
Technical Thermodynamics II	HÜ	1
Technical Thermodynamics II	UE	1

Computer Engineering

Course	Form	Hrs/wk
Computer Engineering	VL	3
Computer Engineering	UE	1

Mathematics III

Course	Form	Hrs/wk
Analysis III	VL	2
Analysis III	UE	1
Analysis III	HÜ	1
Differential Equations 1	VL	2
Differential Equations 1	UE	1
Differential Equations 1	HÜ	1

Mechanics III (GES)

Course	Form	Hrs/wk
Mechanics III	HÜ	1
Mechanics III	UE	2
Mechanics III	VL	3

Mechanical Engineering: Design (part 1)

Course	Form	Hrs/wk
Embodiment Design and 3D-CAD	VL	2
Mechanical Design Project I	TT	3

Fundamentals of Materials Science (part 1)

Course	Form	Hrs/wk
Fundamentals of Materials Science I	VL	2
Physical and Chemical Basics of Materials Science	VL	2

Semester 4

Mechanical Engineering: Design (part 2)

Course	Form	Hrs/wk
Team Project Design Methodology	POL	2
Mechanical Design Project II	TT	3

Fundamentals of Materials Science (part 2)

Course	Form	Hrs/wk
Fundamentals of Materials Science II	VL	2

Advanced Mechanical Engineering Design (part 2)

Course	Form	Hrs/wk
Advanced Mechanical Engineering Design II	VL	2
Advanced Mechanical Engineering Design II	HÜ	2

Signals and Systems

Course	Form	Hrs/wk
Signals and Systems	VL	3
Signals and Systems	HÜ	1

Fluid Dynamics

Course	Form	Hrs/wk
Fluid Mechanics	VL	3
Fluid Mechanics	HÜ	1

Mechanics IV (Kinetics II, Oscillations, Analytical Mechanics, Multibody Systems)

Course	Form	Hrs/wk
Mechanics IV	VL	3
Mechanics IV	UE	2
Mechanics IV	HÜ	1

Electrical Machines

Course	Form	Hrs/wk
Electrical Machines	VL	3
Electrical Machines	HÜ	2

Semester 5

Introduction to Control Systems

Course	Form	Hrs/wk
Introduction to Control Systems	VL	2
Introduction to Control Systems	UE	2

Measurement Technology for Mechanical and Process Engineers

Course	Form	Hrs/wk
Measurement Technology for Mechanical and Process Engineers	VL	2
Measurement Technology for Mechanical and Process Engineers	HÜ	1
Practical Course: Measurement and Control Systems	PR	2

Simulation of Dynamic Systems and Reliability

Course	Form	Hrs/wk
Simulation of Dynamic Systems	VL	2
Reliability of Dynamic Systems	VL	2
Simulation of Dynamic Systems	UE	1
Reliability of Dynamic Systems	UE	1

Electrical Engineering III: Circuit Theory and Transients

Course	Form	Hrs/wk
Circuit Theory	VL	3
Circuit Theory	UE	2

Semester 6

Foundations of Management

Course	Form	Hrs/wk
Introduction to Management	VL	4
Project Entrepreneurship	POL	2

Semiconductor Circuit Design

Course	Form	Hrs/wk
Semiconductor Circuit Design	VL	3
Semiconductor Circuit Design	UE	1

Mathematics IV

Course	Form	Hrs/wk
Complex Functions	VL	2
Complex Functions	UE	1
Complex Functions	HÜ	1
Differential Equations 2	VL	2
Differential Equations 2	UE	1
Differential Equations 2	HÜ	1

Bachelor Thesis

34			**Advanced Mechanical Engineering Design (part 1)**
35		**Programming in C**	Advanced Mechanical Engineering Design I VL 2
36		Programming in C VL 1	
		Programming in C PR 1	Advanced Mechanical Engineering Design I HÜ 2

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.