Course of Study General Engineering Science (German program, 7 semester) (Study Cohort w16)

Sample course plan C Bachelor General Engineering Science (German program, 7 semester) (AIWBS(7))
Specialisation Mechanical Engineering, Focus Biomechanics

Semester 1

Chemistry (LP 1–3)
Course	Form	Hrs/wk
Chemistry I	VL	2
Chemistry II	VL	2
Chemistry I	HÜ	1
Chemistry II	HÜ	1

Electrical Engineering I: Direct Current Networks and Electromagnetic Fields (LP 7–12)
Course	Form	Hrs/wk
Electrical Engineering I: Direct Current Networks and Electromagnetic Fields	VL	3
Electrical Engineering I: Direct Current Networks and Electromagnetic Fields	UE	2

Mathematics I (LP 13–18)
Course	Form	Hrs/wk
Linear Algebra I	VL	2
Linear Algebra I	UE	1
Linear Algebra I	HÜ	1
Analysis I	VL	2
Analysis I	UE	1
Analysis I	HÜ	1

Mechanics I (Statics) (LP 21–23)
Course	Form	Hrs/wk
Mechanics I	VL	2
Mechanics I	UE	2

Semester 2

Electrical Engineering II: Alternating Current Networks and Basic Devices
Course	Form	Hrs/wk
Electrical Engineering II: Alternating Current Networks and Basic Devices	VL	3
Electrical Engineering II: Alternating Current Networks and Basic Devices	UE	2

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

Mechanics II: Mechanics of Materials
Course	Form	Hrs/wk
Mechanics II	VL	2
Mechanics II	UE	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

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 (Hydrostatics, Kinematics, Kinetics I)
Course	Form	Hrs/wk
Mechanics III	VL	3
Mechanics III	UE	2
Mechanics III	HÜ	1

Mechanical Engineering: Design (part 1)
Course	Form	Hrs/wk
Embodiment Design and	VL	2

Semester 4

Mechanical Engineering: Design (part 2)
Course	Form	Hrs/wk
Team Project Design Methodology	PBL	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

Fluid Dynamics
Course	Form	Hrs/wk
Fluid Mechanics	VL	3
Fluid Mechanics	HÜ	2

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

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

Semester 5

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

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

Numerical Mathematics I
Course	Form	Hrs/wk
Numerical Mathematics I	VL	2
Numerical Mathematics I	UE	2

Semester 6

Foundations of Management
Course	Form	Hrs/wk
Introduction to Management	VL	3
Management Tutorial	HÜ	2

MED II: Introduction to Physiology
Course	Form	Hrs/wk
Introduction to Physiology	VL	2

BIO I: Experimental Methods in Biomechanics
Course	Form	Hrs/wk
Experimental Methods in Biomechanics	VL	2

Advanced Materials
Course	Form	Hrs/wk
Advanced Materials Characterization	VL	2
Advanced Materials Design	VL	2
Advanced Materials Design	HÜ	2

Semester 7

Advanced Internship GES

Bachelor Thesis

LP column values (1–23) indicated along the left margin.

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	Mechanics I HÜ 1		**3D-CAD** Mechanical Design TT 3 Project I		
24					
25		**Mathematics II**	**Fundamentals of Materials Science (part 1)**		**MED II: Introduction to Biochemistry and Molecular Biology**
26		Linear Algebra II VL 2	Fundamentals of VL 2 Materials Science I		
27	**Programming in C**	Linear Algebra II UE 1 Linear Algebra II HÜ 1	Physical and Chemical VL 2 Basics of Materials Science	**MED I: Introduction to Anatomy**	Introduction to VL 2 Biochemistry and Molecular Biology
	Programming in C VL 1 Programming in C PR 1	Analysis II VL 2 Analysis II HÜ 1		Introduction to Anatomy VL 2	
28		Analysis II UE 1	**Advanced Mechanical Engineering Design (part 1)**		**BIO I: Implants and Fracture Healing**
29	**Physics for Engineers (AIW)**		Advanced Mechanical VL 2 Engineering Design I		Implants and Fracture VL 2 Healing
30	Physics for Engineers VL 2 Physics for Engineers UE 1		Advanced Mechanical HÜ 2 Engineering Design I	**MED I: Introduction to Radiology and Radiation Therapy**	
				Introduction to VL 2 Radiology and Radiation Therapy	
31					
32					

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.