Course of Study General Engineering Science (German program) (Study Cohort w15)
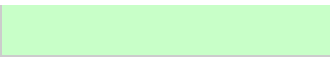
Sample course plan B Bachelor General Engineering Science (German program) (AIWBS)
Specialisation Mechanical Engineering, Focus Biomechanics

Semester 1

Physics for Engineers (part 1)

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

Chemistry

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

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

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)

Course	Form	Hrs/wk
Mechanics I	VL	2
Mechanics I	UE	2
Mechanics I	HÜ	1

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

Mathematics II

Course	Form	Hrs/wk
Linear Algebra II	VL	2
Linear Algebra II	UE	1
Linear Algebra II	HÜ	1
Analysis II	VL	2
Analysis II	HÜ	1
Analysis II	UE	1

Programming in C

Course	Form	Hrs/wk
Programming in C	VL	1
Programming in C	PR	1

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 (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 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

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

MED I: Medical Basics I

Course	Form	Hrs/wk
Introduction to Radiology and Radiation Therapy	VL	2
Introduction to Anatomy	VL	2

Fundamentals of Production and Quality Management

Course	Form	Hrs/wk
Production Process Organization	VL	2
Quality Management	VL	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

BIO I: Implants and Testing (part 1)

Course	Form	Hrs/wk
Implants and Fracture Healing	VL	2

MED II: Medical Basics II (part 1)

Course	Form	Hrs/wk
Introduction to Biochemistry and Molecular Biology	VL	2

Numerical Mathematics I

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

Heat Transfer

Course	Form	Hrs/wk
Heat Transfer	VL	3
Heat Transfer	HÜ	1

Semester 6

Foundations of Management

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

BIO I: Implants and Testing (part 2)

Course	Form	Hrs/wk
Experimental Methods in Biomechanics	VL	2

MED II: Medical Basics II (part 2)

Course	Form	Hrs/wk
Introduction to Physiology	VL	2

Bachelor Thesis

(LP column: 1–34)

35	Programming in C	PR	1	
	Physics for Engineers (part 2)			
36	Physics-Lab for ET/ AIW/ GES	PR	1	

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.