

# Systems Engineering Curriculum (full-time)

Valid from Autumn Semester 2019/2020 / 04.05.2022

Semester	Context Modules	Project Modules	Subject-Specific Modules				Mathematics and Natural Science Modules		
Semester 6	Elective Module Context 2	Bachelor Thesis: Systems Engineering DE/EN 12	Specialisation module 2 4	Specialisation Module 4 4	Elective Module 2 4	Elective Module 4 4			
Semester 5	Elective Module Context 2	Elective Module Context 2	Project Thesis: Systems Engineering DE/EN 6	Specialisation Module 1 4	Specialisation module 3 4	Elective Module 1 4	Elective Module 3 4	Elective Module Cross-Curricular 4	
Semester 4	Business Administration DE 2	Product Development for Systems Engineering 4 EN 4	Mechanical Systems 3 DE 4	Electrical and Drive Engineering for ST DE 4	Computer Engineering 2 DE 4	Control Engineering Fundamentals DE 4	Numerics DE 4		Physics 3 DE 4
Semester 3	Communication Competence 3 DE/EN 2	Product Development for Systems Engineering 3 EN 4	Mechanical Systems 2 DE 4	Electronics and Digital Technology for ST DE 4	Computer Engineering 1 DE/EN 4	Signals and Systems 1 DE/EN 4	Stochastics and Statistics DE 4	Analysis 3 DE 4	
Semester 2	Communication Competence 2 DE/EN 2	Product Development for Systems Engineering 2 DE 4	Mechanical Systems 1 DE 4	Electricity 2 DE 4	Computer Science 2 DE 4		Linear Algebra 2 DE 4	Analysis 2 DE 4	Physics 2 DE 4
Semester 1	Communication Competence 1 DE/EN 2	Product Development for Systems Engineering 1 DE 4	Materials Technology DE 4	Electricity 1 DE 4	Computer Science 1 DE 4		Linear Algebra 1 DE 4	Analysis 1 DE 4	Physics 1 DE 4

Module Name

Language of Instruction

Credits

## Overview of Systems Engineering specialisations and elective modules

During your third year of study, you will choose one of the following two specialisations:

Robotics and Mechatronics		Medical Technology	
Semester 6	Robotics and Mechatronics 2 DE	Control Theory 2 DE	
Semester 5	Robotics and Mechatronics 1 DE	Control Theory 1 DE	
			Semester 6
			Biomedical Engineering 2 DE
			Biomedical Systems 2 DE
			Semester 5
			Biomedical Engineering 1 DE
			Biomedical Systems 1 DE

During your third year of study, you will also choose four of the following elective modules:

Semester 6	Automation 2 EN	Biomechanical Engineering 2 DE	Biomedical Systems 2 DE		Control Theory 2 DE	Robotics and Mechatronics 2 DE	Power Electronics and Electrical Drives 2 DE	Biomedical Engineering 2 DE	Microcomputer Systems 2 DE	Introduction to Rotary Wing Aircraft EN
	Thermal Devices in Medicine EN	Optoelectronics DE	Sensors DE							
Semester 5	Automation 1 EN	Biomechanical Engineering 1 DE	Biomedical Systems 1 DE	Digital Image Processing 1 EN	Control Theory 1 DE	Robotics and Mechatronics 1 DE	Power Electronics and Electrical Drives 1 DE	Biomedical Engineering 1 DE	Microcomputer Systems 1 DE	Additive Manufacturing (3D printing) EN
	Applied Optics / Photonics DE	Computational Fluid Engineering 1 DE	Embedded Software Engineering DE	Industrial Design: Basic Principles EN	System on Chip Design EN					