Bachelor Degree Program Robotics and Autonomous Systems (Winter Term 2020/2021)

1. Semester (30 KP)	2. Semester (30 KP)	3. Semester (32 KP)	4. Semester (30 KP)	5. Semester (27 KP)	6. Semester (31 KP)
CS1500-KP04 Introduction to Robotics and Automation 4 KP (2V + 1Ü)	RO1500-KP08 Technical Mechanics 8 KP (4V + 4Ü)		MA2510-KP04 Stochastics 1 4 KP (2V + 1Ü)	CS3100-KP08 Signal Processing 8 KP (4V + 2Ü)	CS3204-KP04 Artificial Intelligence 1 4 KP (2V + 2Ü)
CS1000-KP10 Introduction to Programming 10 KP (3V + 3Ü + 2P)	CS1001-KP08 Algorithms and Data Structures 8 KP (4V + 2Ü)	ME2400-KP08 Fundamentals of Electrical Engineering 1 8 KP (4V + 2Ü)	ME2700-KP08 Fundamentals of Electrical Engineering 2 8 KP (4V + 2Ü)	CS3501-KP04 Lab Course Robotics and Automation 4 KP (3P)	RO4400-KP08 Control Systems 8 KP (4V + 2Ü)
MA1000-KP08 Linear Algebra and Discrete Structures 1 8 KP (4V + 2Ü)	CS1200-KP06 Fundamentals of Computer Engineering 1 6 KP (2V + 2Ü)	CS2500-KP04 Robotics 4 KP (2V + 2Ü)	CS2110-KP04 Mobile Robots 4 KP (2V + 1Ü)	RO3100-KP07 Bachelor Project Robotics and Autonomous Systems 7 KP (5P)	RO3990-KP15 Bachelor Thesis Robotics and Autonomous Systems 15 KP
MA2000-KP08 Analysis 1 8 KP (4V + 2Ü)	MA1500-KP08 Linear Algebra and Discrete Structures 2 8 KP (4V + 2Ü)	CS1202-KP06 Fundamentals of Computer Engineering 2 6 KP (2V + 2Ü)	CS2301-KP06 Lab Course Software Engineering 6 KP (4P)	Elective Course 1 4 KP	
	MA2500-KP04 Analysis 2 4 KP (2V + 1Ü)	CS2300-KP06 Software Engineering 6 KP (3V + 1Ü)	CS2150-KP08 Operating Systems and Networks 8 KP (4V+2Ü)	Elective Course 2 4 KP	Elective Course 3 4 KP
		PS4640-KP04 Technical Ethics 4 KP (2V + 1Ü)			
4 Examinations	**4 Examinations**	**6 Examinations**	**5 Examinations**	**5 Examinations**	**4 Examinations**

Contact hours: **V**: Lecture / **Ü**: Laboratory / **P**: Internship / **S**: Seminar — **KP**: Credit points / ECTS

Compulsory Course Robotics and Autonomous Systems	Compulsory Course Computer science	Compulsory Course Mathematics	Compulsory Course interdisciplinary	Elective subject-specific

Elective Courses subject-specific

CS1601-KP04 Basics of Multimedia Systems 2V+1Ü

CS1002-KP04 Introduction to Logics 2V+1Ü

CS1300-KP04 Introduction to Medical Informatics 2V+1Ü

CS2000-KP08 Theoretical Computer Science 4V+2Ü

CS2100-KP04 Computer Architecture 2V+1Ü

CS2700-KP04 Databases 2V+1Ü

CS3000-KP04 Algorithm Design 2V+1Ü

CS3010-KP04 Human-Computer-Interaction 2V+1Ü

CS3050-KP04 Coding and Security 2V+1Ü

CS3051-KP04 Parallel Computing 2V+1Ü

CS3201-KP04 Usability- and UX-Engineering 2V+1Ü

CS2600-KP08 Interaction Design and User Experience 4V + 2Ü

CS3205-KP04 Computer Graphics 2V+1Ü

CS3420-KP04 Cryptology 2V+1Ü

CS4172-KP04 Dependability of Computing Systems 2V+1Ü

MA3110-KP04 Numerics 1 2V+1Ü

MA3445-KP04 Graph Theory 2V+1Ü

ME3400-KP04 Lab Course Medical Electrical Engineering 3P

MA3400-KP04 Biomathematics

RO5300-KP06 Humanoid Robotics

CS2250-KP04 Cybersecurity

The module handbook provides a comprehensive list of additional recognized modules.