

M.Sc. in Robotic Systems Engineering – Track: Academic – Suggested Curriculum Overview

1 Semester WS		Compulsory Courses		Engineering Elective Courses	
Robotic Systems	Advanced Robotic Kinematics and Dynamics	Control Engineering		Elective Courses	
Machine Learning	Computer Science in Mechanical Engineering II			Choose from these electives <ul style="list-style-type: none"> • Power Electronics • Processes and Principles for Lightweight Design • Applied Numerical Optimization Engineering • Numerical Methods in Mechanical Engineering • Advanced Finite Element Methods for Engineers • Mechatronics and Control Techniques for Production Plants • Advanced Control Systems • Strategic Technology Management • Introduction to Artificial Intelligence 	
Language Course*					
Language Course					
2 Semester SS		Compulsory Courses		Engineering Elective Courses	
Multibody Dynamics	Computer Vision I			Elective Courses	
				Choose from these electives <ul style="list-style-type: none"> • Production Metrology • Machine Dynamics of Rigid Systems • Industrial Logistics • Artificial Intelligence and Data Analytics for Engineers • International Factory Planning • Advanced Electrical Drives • Advanced Machine Learning • Summer School – Advanced Topics in Robotic Systems Engineering 	
3 Semester WS		Compulsory Courses		Engineering Elective Courses	
Simulation of Robotic Systems, Sensors and Environment	Robotic Sensor Systems			Elective Courses	
				Choose from these electives <ul style="list-style-type: none"> • Power Electronics • Processes and Principles for Lightweight Design • Applied Numerical Optimization Engineering • Numerical Methods in Mechanical Engineering • Advanced Finite Element Methods for Engineers • Mechatronics and Control Techniques for Production Plants • Advanced Control Systems • Strategic Technology Management • Introduction to Artificial Intelligence 	
Research Project					
4 Semester SS		Master Thesis			

* A German Course is compulsory for this program. We recommend taking it in the first semester.