Modul- und Studienverlaufsplan:

Modul	Teilmodul	Sem.	ECTS	ECTS / Semester			
				1	2	3	4
Microcontrollers in Automation	Fundamentals of digital signal processing	1	6	3			
	Implementation of automation solutions employing microcomputers	2			3		
Industrial Communications	Industrial IT and Mobile Communications	1	6	3			
	Industrial Internet and Web-Technologies	2			3		
Information and Network Security in Industrial Automation	IT-Security - Management and Technologies	1	6	3			
	Industrial Security in Automation	2			3		
Integration of Technical and Business Information Systems	Relational Databases	1	8	2			
	Manufacturing Execution Systems	2			2		
	Enterprise Resource Planning Systems	1		4			
Modelling and Simulation of Technical Processes	Numerical methods	1	12	3			
	Modelling and simulation of continuous systems	2			2		
	Modelling and simulation of discrete event systems	2			3		
	Data-driven modelling and model optimization	2			4		

	Linear, nonlinear and model predictive control	1		5			
Advanced Process Control and Optimization	Automation of discrete event systems	1	12		2		
	Optimization	2			5		
	Principles of control, kinematics and dynamics of industrial robots	1	6	3			
Advanced Robotics	Programming, simulation and planning in robotics	2			3		
Technical Project Planning and Software Engineering	Technical project planning	1	4	2			
	Software engineering	2		2			
	Case Study I	3				10	
Case Studies	Case Study II	3	30			10	
	Case Study III	3				10	
Master Thesis	Thesis	4	30				30
	Colloquium	4					
Summe ECTS			**120**	**30**	**30**	**30**	**30**