

**Modul- und Studienverlaufsplan:**

Modul	Teilmodul	Sem.	ECTS	ECTS/ Semester			
				1	2	3	4
Industrial Communications	Industrial IT and Mobile Communications	1	8	4			
	Industrial Internet and Web-Technologies	2			4		
Information and Network Security in Industrial Automation	IT-Security - Management and Technologies	1	8	4			
	Industrial Security in Automation	2			4		
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	14	2			
	Modelling and simulation of continuous systems	2			4		
	Modelling and simulation of discrete event systems	2			2		
	Data-driven modelling and model optimization	2			6		
Advanced Process Control and Optimization	Fundamentals of digital signal processing	1	18	4			
	Linear, nonlinear and model predictive control	1		6			
	Automation of discrete event systems	2			2		
	Optimization	2			6		
Technical Project Planning and Software Engineering	Technical project planning	1	4	2			
	Software engineering	1		2			

Case Studies	Case Study I	3	30			10	
	Case Study II	3				10	
	Case Study III	3				10	
Master Thesis	Thesis	4	30				20
	Colloquium	4					10
<b>Summe ECTS</b>			<b>120</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>30</b>