



Compulsory Group	Artificial Intelligence and Machine Learning (AIML) for Connected Systems	6 CP	Master Thesis	30 CP
		winter		winter/summer
Systems and Networks	Wireless Sensor Networks	6 CP	Design Methodology of Embedded Systems	6 CP
		summer		winter
	Wireless and Mobile Networks	6 CP	Network Virtualization and Automation	6 CP
		winter		winter
Automatics and Robots	Signals and Systems	6 CP	Control System Theory and Engineering	6 CP
		winter		summer
	Robot Operating Systems	3 CP	Learning Robots	3 CP
		winter		winter
Processes and Data Management	Data & Process Mining	6 CP	Business Process Management	6 CP
		summer		winter
	Data Management and Digital Transformation in Industrial Process Automation	3 CP	Advanced Process Mining	6 CP
		winter		summer
Free Elective Group	Free Elective Modules can be elected either at partner universities – including the Conservatoire National des Arts et Métiers (CNAM, Paris France) and CNAM Grand Est (Mulhouse, France), Avignon Université (Avignon, France), Universitat Politècnica de Catalunya (Barcelona, Spain), National Technical University of Ukraine (Kyiv, Ukraine), and Universitatea Babeş-Bolyai (Cluj-Napoca, Romania) – or of the programs Sensorsystemtechnik (Sensor Systems Engineering) and Business Analytics at Ulm University. A minimum of 6 CP must be achieved from modules of the Free Elective Modules Group. A list of applicable modules is available at the examination board.			

**Modular design**  
choose individual units

**Flexible**  
self-paced learning, set your own schedule

**Individually**  
tailored elective areas

**Distribution of credit points (CP)**

**Compulsory Modules:** 36 CP

**Compulsory Elective Modules:**

- Systems and Networks at least 12 CP
- Automatics and Robots at least 12 CP
- Processes and Data Management at least 12 CP

**Free Elective Modules:** at least 6 CP

The missing 12 CP can be chosen from the Compulsory Elective Modules and Free Elective Modules.

Sample schedule						
Modules	Module Groups	Compulsory Modules	Systems and Networks	Automatics and Robots	Processes and Data Management	Free Elective Modules
Artificial Intelligence and Machine Learning (AIML) for Connected Systems		6 CP				
Signals and Systems				6 CP		
Control System Theory and Engineering				6 CP		
Wireless Sensor Networks			6 CP			
Robot Operating Systems				3 CP		
Learning Robots				3 CP		
Design Methodology of Embedded Systems			6 CP			
Data & Process Mining					6 CP	
Pattern Recognition and Deep Learning						6 CP
Business Process Management					6 CP	
Modeling and Identification of Dynamic Systems				6 CP		
Master Thesis		30 CP				
<b>Module Groups (CP)</b>		<b>36 CP</b>	<b>12 CP</b>	<b>24 CP</b>	<b>12 CP</b>	<b>6 CP</b>
<b>Modules (CP)</b>						<b>90 CP</b>

Sample schedule						
Modules	Module Groups	Compulsory Modules	Systems and Networks	Automatics and Robots	Processes and Data Management	Free Elective Modules
Data & Process Mining					6 CP	
Project Management - Processes, Activities and Practices					6 CP	
Artificial Intelligence and Machine Learning (AIML) for Connected Systems		6 CP				
Signals and Systems				6 CP		
Control System Theory and Engineering				6 CP		
Wireless Sensor Networks			6 CP			
Robot Operating Systems				3 CP		
Learning Robots				3 CP		
Design Methodology of Embedded Systems			6 CP			
AI in Networking and Security			6 CP			
Pattern Recognition and Deep Learning						6 CP
Master Thesis		30 CP				
<b>Module Groups (CP)</b>		<b>36 CP</b>	<b>18 CP</b>	<b>18 CP</b>	<b>12 CP</b>	<b>6 CP</b>
<b>Modules (CP)</b>						<b>90 CP</b>