	Subject	Language	Elegible@TUBS	Excluded@TUBS	Elegible@UB	Excluded@UB
	For TUBS-students: Yellow fields for Students of Computer and Communications System Engineering (IST) only					
Semester 7	**Information system**					
	Introduction to cyber security	ENG/FR	x		X	
	Database design and analysis	ENG/FR	x		X	
	Information system and data security	ENG/FR	x		X	
	Programming					
	XML technology		x		X	
	OOP: API and Tools		x		X	
	Network, concurrent and distributed programming		x		X	
	Software methodology					
	Software development methodology		X		X	
	Software Testing and Quality Assurance		x		X	
	Multi-agent system		x		X	
	Artificial intelligence and Virtual Reality					
	Artificial Intelligence	ENG/FR	x		X	
	immersive environment and Virtual reality	ENG/FR	x		X	
Sem. 8 - ASTRE	**Electronic systems, sensors, signal processing**					
	Sensors and actuators		x		X	
	Analogue electronics			x		X
	Signal processing (DSP)			x		X
	Digital image processing (GPU)		x		X	
	Industry 4.0		x		X	
	Embedded control system		x		x	

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Sem. 9 - ASTRE	Embedded programming		x		X	
	Real-Time Digital Signal Processors		x		X	
	IoT Cybersecurity & Distributed Computing		x		X	
	Connected objects	ENG/FR	x		X	
	Digital telecommunication			x		X
	Information theory and coding			x		X
	Artificial intelligence for the IoT	ENG/FR	x		X	
	Heterogeneous Big Data		x		X	
	Design, UX, Information System					
Sem. 8 - IPS	Knowledge representation and reasoning		x		X	
	Design Pattern		x		X	
	Software Design: case study		x		X	
	Software interoperability		x		X	
	Content management systems		x		X	
	User interface design		x		X	
	Mobile app development		x		X	
	Extended Reality (AR and VR)	ENG/FR	x		X	
Sem. 9 - IPS	Business intelligence	ENG/FR	x		X	
	Connected objects	ENG/FR	x		X	
	Active and Interactive Learning	ENG/FR	x		X	
	Heterogeneous Big Data	ENG/FR	x		X	
	Interaction design		x		X	
	Virtual Reality Project		x		X	

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