

Commun Trunk - Semester 1

Semester	UNIT	Code	Course	ECTS		Coefficient		Total Workload	Teaching methodology				Assessment Mode		
				ECUE	UE	ECUE	UE		L	Tt	PrW	TAW	CA	MS	VV
1	TU1110 Engineering Mathematics	CTMAT11	Mathematics for Engineer	3,5	9	3,5	9	42	27	15	0	0		x	
		CTMAT12	Discrete Mathematics	3		3		31,5	21	10,5	0	0		x	
		CTMAT13	Probability Theory and Stochastic Processes	2,5		2,5		31,5	21	10,5	0	0		x	
	TU1120 Software Development 1	CTSDV11	Database Management Systems	3	7,5	3	7,5	48	24	0	18	6		x	
		CTSDV12	Algorithmics and Programming	3,5		3,5		61,5	24	10,5	18	9		x	
		CTSDV13	Web Programminq	1		1		21	0	0	21	0	x		
	TU1130 Systems and Networks 1	CTSNW11	Operating System	2	5	2	5	37,5	21	0	10,5	6		x	
		CTSNW12	Data Communications and Networks	2		2		21	21	0	0	0		x	
		CTSNW13	Preparation for LPIC Certification 101	1		1		21	0	0	21	0	x		
	TU1140 Electronics and Architecture	CTELA11	Electronics for Engineer	2	5,5	2	5,5	21	15	0	6	0		x	
		CTELA12	Computer Systems Architecture	3,5		3,5		63	18	9	15	21		x	
	TU1150 Management and Communication 1	CTMCO11	Economics	1	3	1	3	14	10	4	0	0	x		
		CTMCO12	Business Management	1		1		14	10	4	0	0	x		
		CTMCO13	English for Specific Purposes 1	1		1		21	21	0	0	0	x		
	Total				30	30	30	30	448	233	63,5	109,5	42		

L: Lecture; TT: Tutorial; PrW: Practical Work; TAW:Tutoried Autonomous Work; CA: Continuous Assessment; MS: Mixed System; VV: Viva Voice

Commun Trunk - Semester 2

Semester	UNIT	Code	Course	ECTS		Coefficient		Total Workload	Teaching methodology				Assessment Mode		
				ECUE	UE	ECUE	UE		L	Tt	PrW	TAW	CA	MS	VV
2	TU1210 Applied Mathematics	CTMAT21	Applied Numerical Methods	3,5	9,5	3,5	9,5	51	21	6	15	9		x	
		CTMAT22	Computational Optimization	3,5		3,5		51	21	6	15	9		x	
		CTMAT23	Digital Signal Processing	2,5		2,5		40,5	16,5	0	15	9		x	
	TU1220 Software Development 2	CTSDV21	Object-Oriented Programming	2,5	6,5	2,5	6,5	40,5	16,5	0	15	9		x	
		CTSDV22	Advanced Databases	2,5		2,5		48	27	0	15	6		x	
		CTSDV23	Web Technology	1,5		1,5		30	0	0	21	9	x		
	TU1230 Systems and Networks 2	CTSNW21	Preparation for LPIC Certification 102	1	3	1	3	21	0	0	21	0	x		
		CTSNW22	IP Networks and Protocols	2		2		31,5	16,5	0	15	0		x	
	TU1240 Abstract Programming	CTMAT29	Language Theory and Compilation	3	5,5	3	5,5	42	27	6	9	0		x	
		CTAPR22	Advanced Algorithms and Complexity	2,5		2,5		31,5	22,5	9	0	0		x	
	TU1250 Management and Communication 2	CTMCO21	Entrepreneurship and Digital Strategies	1	5,5	1	5,5	21	21	0	0	0	x		
		CTMCO22	Accountancy for Engineer	1,5		1,5		21	15	6	0	0	x		
		CTMCO23	English for Specific Purposes 2	1		1		21	21	0	0	0	x		
		CTFAP21	Final Annual Project 1	2		2		-	-	-	-	-			x
Total				30	30	30	30	450	225	33	141	51			

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Commun Trunk - Semester 3

Semester	UNIT	Code	Course	ECTS		Coefficient		Total Workload	Teaching methodology				Assessment Mode		
				ECUE	UE	ECUE	UE		L	Tt	PrW	TAW	CA	MS	VV
3	TU2310 Data Sciences	CTDSC31	Big DATA	2,5	7	2,75	7,5	37,5	19,5	0	12	6		x	
		CTDSC32	Artificial Intelligence and Machine Learning	3		3,25		48	21	0	21	6		x	
		CTDSC33	Python for Data Analytics	1,5		1,5		21	0	0	21	0	x		
	TU2320 Software Engineering	CTSEG31	Modern Software Engineering	1,5	6,5	1,5	7	21	15	6	0	0		x	
		CTSEG32	Object Oriented Analysis and Design Patterns	3		3,25		48	27	15	0	6		x	
		CTSEG33	Advanced Object-Oriented Programming	2		2,25		37,5	16,5	0	15	6		x	
	TU2330 Network and Software Security	CTNSS31	Cryptography and Network Security	3	5	3,25	5,5	48	27	0	15	6		x	
		CTNSS32	Cloud Computing	2		2,25		37,5	19,5	0	12	6	x		
	TU2340 Architecture and Embedded Systems	CTNSS33	Software Architecture	1,5	6,5	1,5	7	21	21	0	0	0		x	
		CTAES31	Linear Control Systems	2		2,25		31,5	19,5	0	12	0		x	
		CTAES32	Embedded Systems	3		3,25		48	21	0	21	6		x	
	TU2350 Leadership	CTLES31	Management and Leadership	1	3	1	3	14	10	4	0	0	x		
		CTLES32	Management Control	1		1		14	10	4	0	0	x		
		CTLES33	TOEIC 1	1		1		21	0	0	21	0	x		
	TU2360 Internship	CTINS31	Introductory Internship	2	2	-	-	-	-	-	-	-			x
Total				30	30	30	30	448	227	29	150	42			

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Industrial Computing - Semester 4

Semester	UNIT	Code	Course	ECTS		Coefficient		Total Workload	Teaching methodology				Assessment Mode				
				ECUE	UE	ECUE	UE		L	Tt	PrW	TAW	CA	MS	VV		
4	TU2412 Systems Control	ICSCO41	Modern Control Theory		3	7	3	7	39	21	6	15	6		x		
		ICSCO42	Modeling and Simulation of Complex Systems		1,5		1,5		24	6	0	15	3	x			
		ICSCO43	Soft Computing		2,5		2,5		37,5	16,5	0	15	6		x		
	TU2422 Advanced Embedded Electronics	ICAEE41	Microcontroller Programming and Interfacing		2,5	6	2,5	6	37,5	10,5	0	21	6	x			
		ICAEE42	Digital Signal Processors		1,5		1,5		21	15	0	6	0		x		
		ICAEE43	Reconfigurable Computing Systems		2		2		37,5	16,5	0	15	6		x		
	TU2432 Instrumentation and Automation	ICINA41	Measurements and Instrumentation		2	7,5	2	7,5	34,5	16,5	0	15	3	x			
		ICINA42	Power Electronics and Drives		2,5		2,5		31,5	13,5	0	18	0		x		
		ICINA43	Advanced Automation System		3		3		46,5	10,5	0	21	15		x		
	TU2440 Engineering Project	CTEPR41	Project Management for Engineers		2,5	4,5	2,5	4,5	42	15	12	15	0		x		
		CTEPR42	Final Annual Project 2		2		2		-	-	-	0	0			x	
	TU2450 Technical Communication	CTTCO41	Design-Thinking		1	2	1	2	21	21	0	0	0	x			
		CTTCO42	TOEIC 2		1		1		21	0	0	21	0	x			
	TU2462* Elective Modules (1/3)	ICIIS41	(*): Intelligent and Interconnected Systems	Embedded Networks		3	3	3	3	48	27	0	15	6		x	
		ICISE41	(*): Industrial Systems Engineering	Quality Management												x	
ICESE41		(*): Embedded Systems Engineering	Microcontrollers for IoT												x		
Total				30	30	30	30	450	189	18	192	51					

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Industrial Computing - Semester 5

Semester	UNIT	Code	Course		ECTS		Coefficient		Total Workload	Teaching methodology			Assessment Mode				
					ECUE	UE	ECUE	UE		L	Tt	PrW	TAW	CA	MS	VV	
5	TU3512 Advanced Control	ICACT51	Control of Complex Systems		3	8	3,5	9	48	21	6	15	6		x		
		ICACT52	Robotics Engineering		3		3,5		48	21	6	15	6		x		
		ICACT53	Real-Time Computing		2		2		37,5	12	4,5	15	6		x		
	TU3522 Industrial Control Systems	ICICS51	Lean Management		1,5	5	1,5	5	21	21	0	0	0		x		
		ICICS52	Production Planning and Control		2		2		37,5	12	7,5	12	6		x		
		ICICS53	Reliability Engineering		1,5		1,5		21	15	0	6	0		x		
	TU3532 Research and Development	CTRDV51	Research Methodology		1,5	6,5	1,75	7,5	21	15	6	0	0	x			
		CTRDV52	Business Protections for Innovation		1,5		1,75		21	15	6	0	0	x			
		ICRDV51	Elective R&D courses (1/3)	Intelligent Control Systems			3,5		4	63	42	0	0	21		x	
		ICRDV52		AI in Renewable Energies												x	
		ICRDV53		Smart Agriculture												x	
	TU3540 Law and Communication	CTLCO51	Cyberlaw and Privacy		1,5	4,5	1,5	4,5	21	21	0	0	0	x			
		CTLCO52	English for Employment		1,5		1,5		21	15	0	6	0	x			
		CTLCO53	Personal Branding		1,5		1,5		21	15	0	6	0	x			
	TU3552 Elective Modules (2/6)	ICIIS51	(*) Intelligent and Interconnected Systems	Mobile Computing		4	4	4	4	69	42	0	21	6		x	
		ICIIS52		Wireless Sensor Networks												x	
		ICISE51	(*) Industrial Systems Engineering	Logistics and Supply Chain												x	
		ICISE52		Digital Transformation and Industry 4.0												x	
ICESE51		(*) Embedded Systems Engineering	Advanced Processors Architecture												x		
ICESE52			SOC Architecture and Co-Design												x		
TU3560 Internship	CTINS31	Advanced Internship		2	2	-	-	-	-	-	-	-			x		
Total					30	30	30	30	450	267	36	96	51				

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Industrial Computing - Semester 6

Semester	UNIT	Code	Course	ECTS		Coefficient		Total Workload	Teaching methodology				Assessment Mode		
				ECUE	UE	ECUE	UE		L	Tt	PrW	TAW	CA	MS	VV
6	TU3610: Final Project	FGP11	Final Graduation Project	30	30	-	-	450	0	0	0	450			x
Total				30	30	-	-	450	0	0	0	450			

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