

**Allegato B1**

**Quadro degli insegnamenti e delle altre attività formative programmate per l'intero percorso di studi della coorte di riferimento**

Anno accademico **2023-2024**

Corso di laurea magistrale in **Ingegneria Elettronica - classe LM 29**

Curriculum UNICO

DM 270/2004, art. 12, comma 2, lettera a)

Tipologie attività form.		Ambiti disciplinari		Attività formative programmate			CFU da ordinamento didattico			
Denominazione	Tip.	N.	Denominazione	Insegnamento o modulo	SSD	CFU				
caratterizzanti	b	1	Ingegneria Elettronica	Electrical and Electronic Measurements	ING-INF/07	6				
				Electronic Devices and Components	ING-INF/01	6				
				Elettronica di potenza	ING-INF/01	6				
				Electronic Instrumentation and Sensors	ING-INF/07	6				
				Sistemi elettronici analogico-digitali	ING-INF/01	6				
				<b>18 CFU a scelta tra:</b>						
				Architetture e algoritmi paralleli	ING-INF/01	6				
				Compatibilità, normativa e sicurezza degli apparati elettronici	ING-INF/02	6				
				Digital Design	ING-INF/01	6				
				Laboratorio di antenne	ING-INF/02	6				
				Microonde	ING-INF/02	6				
				Neural, Bio-inspired and Quantum Computing	ING-INF/01	6				
				Antenne	ING-INF/02	6				
				Propagazione guidata	ING-INF/02	6				
				Measurement Signal Processing	ING-INF/01					
				Measurement Signal Processing Lab	ING-INF/01					
				Chip Design I	ING-INF/01					
				Cyberphysical Systems and Digital Twins in Robotics and Transportation	ING-INF/01					
<b>Totale ambito</b>						<b>48</b>	<b>-</b>			
<b>Totale attività caratterizzanti</b>						<b>48</b>	<b>48 - 64</b>			
affini e integrative	c	1	Discipline ingegneristiche	42 CFU a scelta tra:						
				Advanced Digital Control Systems for Electrical Energy Conversion	ING-INF/01	6				
				Azionamenti elettrici per applicazioni moderne	ING-IND/32	6				
				Calcolatori elettronici	ING-INF/05	6				
				Comunicazioni wireless	ING-INF/03	6				
				Data Analytics and Machine Learning	ING-INF/05	6				
				Design of Electric Machines for Modern Drives	ING-IND/32	6				
				Elaborazione numerica del segnale	ING-INF/03	6				
				Circuiti e sistemi a radiofrequenza	ING-INF/01	6				
				Computer Graphics	ING-INF/05	6				
				Elettronica industriale	ING-INF/01	6				

Laboratorio didattico di ingegneria dell'informazione	ING-INF/03	6
Meccatronica e robotica	ING-IND/13	6
Nanoelectronic Devices and Circuits with High Energy Efficiency for IoT Applications	ING-INF/01	6
Simulazione avanzata per il progetto di sistemi elettrici	ING-IND/31	6
Sistemi di telecomunicazione	ING-INF/03	6
Teoria dei sistemi e del controllo	ING-INF/04	12
Visione artificiale	ING-INF/05	6
Basic Lab on Neural Networks and Deep-Learning	ING-INF/05	
CAE of Mechatronic Systems I	ING-IND/13	
CAE of Mechatronic Systems I Lab	ING-IND/13	
Data Mining, Synthetic Data, and Knowledge Discovery	ING-INF/05	
Fundamentals of Image Processing	ING-INF/05	
Labour Fundamentals of Image Processing	ING-INF/05	
Labor: Robotics Fundamentals	ING-IND/13	
Mobile Communications	ING-INF/03	
Mobile Communications Lab	ING-INF/03	
Mobile Robot Navigation with Artificial Intelligence	ING-INF/04	
Nonlinear Dynamics - Modelling, Simulation and Neuro-Computing	ING-INF/04	
Nonlinear Systems: Analysis and Control	ING-INF/04	
Nonlinear Systems: Analysis and Control Lab	ING-INF/04	
Pervasive Computing	ING-INF/05	
Pervasive Computing Lab	ING-INF/05	
Research Seminar in Embedded Communications	ING-INF/03	
Research Seminar on Self Organizing Systems	ING-INF/04	
Robotics Fundamentals	ING-IND/13	
Seminar on Big Data, Predictive Analytics, and Automation in Telecommunications and Intelligent Transportation Systems	ING-INF/05	
Signal Processing for Communications	ING-INF/03	
Signal Processing for Communications Lab	ING-INF/03	
Smart Cities - Technology, Management & Governance	ING-INF/05	
Smart Grids	ING-IND/31	
Transportation Telematics Advances: Digitalization, Automation and Smart Logistics	ING-INF/05	
Vision Based State Estimation and Sensors Fusion	ING-INF/05	
Vision Based State Estimation and Sensors Fusion Lab	ING-INF/05	

			Advanced Topics in Trustworthy Neurocomputing, Neuro-symbolic Computing and Surrogate Modeling	ING-INF/05		
			Advanced Wireless Communications	ING-INF/03		
			Control of Autonomous Systems	ING-INF/04		
			Control of Autonomous Systems Lab	ING-INF/04		
			IoT and Smart Buildings	ING-INF/05		
			Lab on Autonomous Driving Cars	ING-INF/04		
			Lab on Neurocomputing in Robotics and Intelligent Vehicles	ING-INF/05		
			Machine Learning Basics for Information and Communication Engineering	ING-INF/05		
			Mathematical Modeling Methods for Transportation and Logistics	ING-INF/05		
			Mobile Applications with Androids	ING-INF/05		
			Modelling and Simulation of Energy Systems	ING-IND/32		
			Optimisation and Neural Network based Simulation Lab for Transportation and Logistics	ING-INF/05		
			Power Line Communications	ING-INF/03		
			Research Seminar in Control and Measurement Systems	ING-INF/04		
			Research Seminar in Intelligent Transportation Systems	ING-INF/04		
			Research Seminar in Pervasive Computing	ING-INF/05		
			Research Seminar in Sensors and Actuators	ING-IND/32		
			Research Seminar in Smart Grids	ING-IND/32		
			Robust Design and Reliability Lab	ING-IND/13		
			Sensors and Actuators	ING-IND/32		
			Sensors and Actuators Lab	ING-IND/32		
			Sensor Networks	ING-INF/03		
			Sensor Networks Lab	ING-INF/03		
			Wireless Networks	ING-INF/03		
			Wireless Networks KU	ING-INF/03		
<b>Totale ambito</b>				<b>42</b>		<b>min. 12</b>
<b>Totale affini e</b>				<b>42</b>		<b>30 - 42</b>
a scelta studente	d			12		
<b>Totale a scelta</b>				<b>12</b>		<b>8 – 12</b>
prova finale e lingua straniera.	e	1	Prova finale	15		15 - 18
	e	2	Prova conoscenza	3		3 – 3
<b>Totale prova</b>				<b>18</b>		<b>18 - 21</b>
ulteriori attività formative (art.10, comma 5, lettera d)	f	1				0 - 6
	f	2				
	f	3				
	f	4				
	f	5				
<b>Totale altre</b>				<b>30</b>		<b>26 - 39</b>
<b>TOTALE GENERALE</b>				<b>120</b>		

**Legenda**

SSD: Settore scientifico-disciplinare

CFU: Credito formativo universitario, corrispondente a 25 ore di lavoro di apprendimento dello studente

Tip.: Tipologia di attività formativa prevista dall'art. 10 del DM 270/2004.

**Nota:** gli insegnamenti in campo verde sono erogati presso l'Università Alpe Adria di Klagenfurt (A).