



**MASTER DEGREE
COMPUTER ENGINEERING
CLASS LM-32
PLAN OF STUDY
Academic Year 2024 - 2025**

The Computer Engineering degree program has 4 Curricula:

- INFORMATICS
- ELECTRONIC SYSTEMS
- ROBOTICS AND ARTIFICIAL INTELLIGENCE
- NETWORKS AND INTERNET OF THINGS

The courses are classified based as follows (type of educational activity, "TAF"):

TAF A = base courses

TAF B = characterizing courses

TAF C = complementary courses

TAF D = elective courses

TAF E = final thesis

TAF F = other activities

Curriculum "INFORMATICS"					
I year					
<i>Course</i>	<i>Modulo</i>	<i>Settore</i>	<i>TAF</i>	<i>CFU</i>	<i>SEM</i>
Machine learning	Machine learning	ING-INF/05	B	6	1
	Evolutionary robotics	ING-INF/05	B	3	1
Advanced internet technologies		ING-INF/05	B	6	1
Software development methods		ING-INF/05	B	6	1
Complexity and cryptography		ING-INF/05	B	9	2
Cybersecurity		ING-INF/05	B	9	2
Mathematical optimisation		MAT/09	C	6	2
II year					
<i>Course</i>	<i>Modulo</i>	<i>Settore</i>	<i>TAF</i>	<i>CFU</i>	<i>SEM</i>
Cybersecurity Lab		ING-INF/05	B	6	1
Web application programming		ING-INF/05	B	6	1
Information retrieval and data visualization		INF/01	C	6	1
Global and multi-objective optimization		INF/01	C	6	1
Data-driven systems engineering		ING-INF/05	B	9	2
Elective courses		/	D	12	
Internship		/	F	6	
Final project		/	E	24	



Curriculum "ELECTRONIC SYSTEMS"					
I year					
Course	Modulo	Settore	TAF	CFU	SEM
Machine learning	Machine learning	ING-INF/05	B	6	1
	Evolutionary robotics	ING-INF/05	B	3	1
Advanced internet technologies		ING-INF/05	B	6	1
Data-Driven digital systems	Data-Driven digital systems	ING-INF/04	B	6	1
Wireless networks and Internet of Things	Wireless networks	ING-INF/05	B	3	1
	Digital communication	ING-INF/05	B	6	2
Digital signal and image processing		ING-INF/01	C	9	2
Digital electronics and devices		ING-INF/01	C	6	2
Cybersecurity		ING-INF/05	B	9	2
II year					
Course	Modulo	Settore	TAF	CFU	SEM
Computer vision and pattern recognition		ING-INF/04	B	6	1
Electronics for Wireless Networks		ING-INF/01	C	3	1
Electronic systems design		ING-INF/01	C	9	A
Embedded systems		ING-INF/01	C	9	2
Elective courses		/	D	12	
Internship		/	F	6	
Final project		/	E	21	

Curriculum "ROBOTICS and ARTIFICIAL INTELLIGENCE"					
I year					
Course	Modulo	Settore	TAF	CFU	SEM
Machine learning	Machine learning	ING-INF/05	B	6	1
	Evolutionary robotics	ING-INF/05	B	3	1
Advanced internet technologies		ING-INF/05	B	6	1
Data-Driven digital systems	Data-Driven digital systems	ING-INF/04	B	6	1
	Digital systems	ING-INF/04	B	3	1
Cybersecurity		ING-INF/05	B	9	2
Control theory		ING-INF/04	B	9	2
Mathematical optimisation		MAT/09	C	6	2
II year					
Course	Modulo	Settore	TAF	CFU	SEM
Computer vision and pattern recognition		ING-INF/04	B	6	1
Control of cyber-physical systems		ING-INF/04	B	6	1
Learning-based control		ING-INF/04	B	6	1
Robotics	Robotics	ING-IND/13	C	6	2
	Mobile robots	ING-IND/13	C	6	2
Elective courses		/	D	12	
Internship		/	F	6	
Final project		/	E	24	



Curriculum "NETWORKS AND INTERNET OF THINGS"					
I year					
Course	Modulo	Settore	TAF	CFU	SEM
Machine learning	Machine learning	ING-INF/05	B	6	1
	Evolutionary robotics	ING-INF/05	B	3	1
Advanced internet technologies		ING-INF/05	B	6	1
Wireless networks and Internet of Things	Wireless networks	ING-INF/05	B	3	1
	Digital communication	ING-INF/05	B	6	2
Digital signal and image processing		ING-INF/01	C	9	2
Cybersecurity		ING-INF/05	B	9	2
Complexity and cryptography		ING-INF/05	B	9	2
II year					
Course	Modulo	Settore	TAF	CFU	SEM
Air and satellite networks		ING-INF/03	C	6	1
Electronics for Wireless Networks		ING-INF/01	C	3	1
Cyber-physical systems		ING-INF/05	B	6	1
Microwave and optical networks		ING-INF/03	C	9	2
Antennas		ING-INF/02	C	6	2
Elective courses		/	D	12	
Internship		/	F	6	
Final project		/	E	21	

Elective courses

In the study plan, the student must register for elective courses (TAF D, 12 CFU) that can be chosen from the following set.

The student cannot enroll in an elective course if s/he has already given the same or equivalent exam in previous courses of study.

- courses of curricula of this degree, different from the curriculum chosen by the student
- courses of a degree in Engineering (IN10, IN11, IN15, IN16, IN19, IN21, IN22)
- courses of the degree in Data Science and Artificial Intelligence
- courses of the degree in Physics
- courses of the degree in Mathematics