

Electronics and Communications Engineering

ENROLLMENT: 2022/2023 - STUDY PLAN DIRECTIONS

Program: Electronics for Smart Industry

FIRST YEAR (57 CFUs)

ACTIVITY	SSD	CFUs	TAF	Year	Sem.
First Semester - Compulsory Activities (21 CFUs)					
DIGITAL COMMUNICATIONS	ING-INF/03	9	B	1	I
STATISTICAL SIGNAL PROCESSING	ING-INF/03	6	B	1	I
ELECTRIC SYSTEM AND GREEN POWER DEVICES	ING-IND/31	6	C	1	I
Second Semester - Compulsory Activities (21 CFUs)					
MATHEMATICAL METHODS FOR ENGINEERING	MAT/05	6	C	1	II
INDUSTRIAL RELIABILITY AND SAFETY ENGINEERING	ING-INF/07	6	C	1	II
DIGITAL EMBEDDED ELECTRONICS FOR SMART INDUSTRY	ING-INF/01	9	C	1	II
First/Second Semester - Compulsory constrained choice (9 CFUs from the following)					
ADVANCED DIGITAL IMAGE PROCESSING	ING-INF/03	9	B	1	I
MICROWAVE ENGINEERING	ING-INF/02	9	B	1	II
MODERN COMMUNICATIONS TECHNOLOGIES FOR 5G AND BEYOND	ING-INF/03	9	B	1	II
Elective Courses (6 CFUs from the following)					
First Semester					
ANALOG CIRCUIT DESIGN	ING-INF/01	6	D	1	I
NETWORKING	ING-INF/03	6	B/D	1	I
Second Semester					
COMPUTATIONAL ELECTROMAGNETICS	ING-INF/02	6	B/D	1	II
Year Total CFUs					57

SECOND YEAR (63 CFUs)

ACTIVITY	SSD	CFUs	TAF	Year	Sem.
First Semester - Compulsory Activities (15 CFUs)					
ANTENNAS AND PROPAGATION	ING-INF/02	9	B	2	I
INFORMATION THEORY	ING-INF/03	6	B	2	I
Second Semester - Compulsory Activities (36 CFUs)					
SENSORS AND MICROSYSTEMS	ING-INF/07	6	C	2	II
MASTER THESIS (FINAL EXAM)		21	E	2	
INTERSHIP		9	F	2	
Elective Courses (12 CFUs from the following)					
First Semester					
ADVANCED COMPUTER ARCHITECTURES	ING-INF/05	6	D	2	I
DIGITAL MODELLING, DESIGN AND MANUFACTURING	ING-IND/13	6	D	2	I
RFID TECHNOLOGIES	ING-INF/02	6	B/D	2	I
Second Semester					
CYBERSECURITY	ING-INF/03	6	B/D	2	II
MOBILE COMMUNICATIONS AND IOT	ING-INF/03	6	B/D	2	II
Year Total CFUs					63

TOTAL CFUs 120

STUDY PLAN CFUs COMPOSITION (COMPULSORY)

CFUs	TAF
TAF B (Total)	45 B
TAF C (Total)	33 C
TAF D (Total)	12 D
INTERSHIP	9 F
MASTER THESIS (FINAL EXAM)	21 E

Electronics and Communications Engineering

ENROLLMENT: 2022/2023 - STUDY PLAN DIRECTIONS

Program: Telecommunications for the Digital Society

FIRST YEAR (57 CFUs)

ACTIVITY	SSD	CFUs	TAF	Year	Sem.
First Semester - Compulsory Activities (21 CFUs)					
DIGITAL COMMUNICATIONS	ING-INF/03	9	B	1	I
STATISTICAL SIGNAL PROCESSING	ING-INF/03	6	B	1	I
NETWORKING	ING-INF/03	6	B	1	I
Second Semester - Compulsory Activities (21 CFUs)					
MATHEMATICAL METHODS FOR ENGINEERING	MAT/05	6	C	1	II
First/Second Semester - Compulsory constrained choice (18 CFUs from the following)					
ADVANCED DIGITAL IMAGE PROCESSING	ING-INF/03	9	B	1	I
MICROWAVE ENGINEERING	ING-INF/02	9	B	1	II
MODERN COMMUNICATIONS TECHNOLOGIES FOR 5G AND BEYOND	ING-INF/03	9	B	1	II
Elective Courses (12 CFUs from the following)					
First Semester					
ELECTRIC SYSTEM AND GREEN POWER DEVICES	ING-IND/31	6	C/D	1	I
Second Semester					
COMPUTATIONAL ELECTROMAGNETICS	ING-INF/02	6	B/D	1	II
INDUSTRIAL RELIABILITY AND SAFETY ENGINEERING	ING-INF/07	6	C/D	1	II
VIRTUAL INSTRUMENTATION AND DIGITAL EMBEDDED ELECTRONICS	ING-INF/01	6	C/D	1	II
Year Total CFUs					57

SECOND YEAR (63 CFUs)

ACTIVITY	SSD	CFUs	TAF	Year	Sem.
First Semester - Compulsory Activities (21 CFUs)					
ANTENNAS AND PROPAGATION	ING-INF/02	9	B	2	I
ANALOG CIRCUIT DESIGN	ING-INF/01	6	C	2	I
INFORMATION THEORY	ING-INF/03	6	B	2	I
Second Semester - Compulsory Activities (30 CFUs)					
MASTER THESIS (FINAL EXAM)		21	E	2	
INTERSHIP		9	F	2	
Elective Courses (12 CFUs from the following)					
First Semester					
FUNDAMENTALS OF MACHINE LEARNING	ING-INF/05	6	D	2	I
RFID TECHNOLOGIES	ING-INF/02	6	B/D	2	I
Second Semester					
CYBERSECURITY	ING-INF/03	6	B/D	2	II
MOBILE COMMUNICATIONS AND IOT	ING-INF/03	6	B/D	2	II
SENSORS AND MICROSYSTEMS	ING-INF/07	6	C/D	2	II
Year Total CFUs					63

TOTAL CFUs 120

STUDY PLAN CFUs COMPOSITION (COMPULSORY) CFUs TAF

TAF B (Total)	60	B
TAF C (Total)	18	C
TAF D (Total)	12	D
INTERSHIP	9	F
MASTER THESIS (FINAL EXAM)	21	E

Piano di Studi LM
Electronics and Communications Engineering
Classe LM-27
Coorte A.A. 2022/23

Curriculum Telecommunications for the Digital Society

Primo Anno

denominazione attività formativa/insegnamento	SSD	CFU	Ore	Sem.	TAF	Eventuali Mutuazioni
Digital Communications	ING-INF/03	9	72	I	B	
Statistical Signal Processing	ING-INF/03	6	48	I	B	
Networking	ING-INF/03	6	48	I	B	
Mathematical Methods for Engineering	MAT/05	6	48	II	C	Laurea Magistrale in Artificial Intelligence and Automation Engineering
2 insegnamenti dal seguente gruppo						
Advanced Digital Image Processing	ING-INF/03	9	74	I	B	
Microwave Engineering	ING-INF/02	9	72	II	B	
Modern Communication Technologies for 5G and Beyond	ING-INF/03	9	72	II	B	
2 insegnamenti dal seguente gruppo*						
Attività a scelta dello studente		6		I/II	D	
Attività a scelta dello studente		6		I/II	D	
Computational Electromagnetics	ING-INF/02	6	48	II	B	
Electric System and Green Power Devices	ING-IND/31	6	60	I	C	
Industrial Reliability and Safety Engineering	ING-INF/07	6	48	II	C	
Virtual Instrumentation and Digital Embedded Electronics	ING-INF/01	6	60	II	C	Digital Embedded Electronics for Smart Industry
Totale CFU dell'anno		57				

Secondo Anno

denominazione attività formativa/insegnamento	SSD	CFU	Ore	Sem.	TAF	Eventuali Mutuazioni
Antennas and Propagation	ING-INF/02	9	75	I	B	
Information theory	ING-INF/03	6	54	I	B	
Analog Circuit Design	ING-INF/01	6	60	I	C	
Tirocinio		9	225	II	F	
Prova finale (tesi)		21			E	
2 insegnamenti dal seguente gruppo*						
Attività a scelta dello studente		6		I/II	D	
Attività a scelta dello studente		6		I/II	D	
RFID Technologies	ING-INF/02	6	48	I	B	
Mobile Communications and IoT	ING-INF/03	6	48	II	B	
Cybersecurity	ING-INF/03	6	54	II	B	
Sensors and Microsystems	ING-INF/07	6	60	II	C	
Totale CFU dell'anno		63				

* complessivamente almeno 1 insegnamento in TAF B e 1 insegnamento in TAF C

Curriculum Electronics for Smart Industry

Primo Anno

denominazione attività formativa/insegnamento	SSD	CFU	Ore	Sem.	TAF	Eventuali Mutuazioni
Digital Communications	ING-INF/03	9	72	I	B	
Statistical Signal Processing	ING-INF/03	6	48	I	B	
Electric System and Green Power Devices	ING-IND/31	6	60	I	C	Electric System and Energy Market Laurea Magistrale in Engineering Management
Mathematical Methods for Engineering	MAT/05	6	48	II	C	Laurea Magistrale in Artificial Intelligence and Automation Engineering
Industrial Reliability and Safety Engineering	ING-INF/07	6	48	II	C	
Digital Embedded Electronics for Smart Industry	ING-INF/01	9	90	II	C	
1 insegnamento dal seguente gruppo						
Advanced Digital Image Processing	ING-INF/03	9	74	I	B	
Microwave Engineering	ING-INF/02	9	72	II	B	
Modern Communication Technologies for 5G and Beyond	ING-INF/03	9	72	II	B	
1 insegnamento dal seguente gruppo*						
Attività a scelta dello studente		6		I/II	D	
Networking	ING-INF/03	6	48	I	B	
Computational Electromagnetics	ING-INF/02	6	48	II	B	
Totale CFU dell'anno		57				

Secondo Anno

denominazione attività formativa/insegnamento	SSD	CFU	Ore	Sem.	TAF	Eventuali Mutuazioni
Antennas and Propagation	ING-INF/02	9	75	I	B	
Information Theory	ING-INF/03	6	54	I	B	
Sensors and Microsystems	ING-INF/07	6	60	II	C	
Tirocinio		9	225	II	F	
Prova finale (tesi)		21			E	
2 insegnamenti dal seguente gruppo*						
Attività a scelta dello studente		6		I/II	D	
Attività a scelta dello studente		6		I/II	D	
RFID Technologies	ING-INF/02	6	48	I	B	
Mobile Communications and IoT	ING-INF/03	6	48	II	B	
Cybersecurity	ING-INF/03	6	54	II	B	
Totale CFU dell'anno		63				

* complessivamente deve essere scelto almeno 1 insegnamento in TAF B

**Attività automaticamente approvate come scelta
Curriculum Telecommunications for the Digital Society**

denominazione attività formativa/insegnamento	SSD	CFU	Ore	Sem.	TAF	Anno
Computational Electromagnetics	ING-INF/02	6	48	II	D	I anno
Electric System and Green Power Devices	ING-IND/31	6	60	I	D	I anno
Industrial Reliability and Safety Engineering	ING-INF/07	6	48	II	D	I anno
Virtual Instrumentation and Digital Embedded Electronics	ING-INF/01	6	60	II	D	I anno
Fundamentals of Machine Learning	ING-INF/05	6	54	I	D	II anno
RFID Technologies	ING-INF/02	6	48	I	D	II anno
Cybersecurity	ING-INF/03	6	54	II	D	II anno
Mobile Communications and IoT	ING-INF/03	6	48	II	D	II anno
Sensors and Microsystems	ING-INF/07	6	60	II	D	II anno

**Attività automaticamente approvate come scelta
Curriculum Electronics for Smart Industry**

denominazione attività formativa/insegnamento	SSD	CFU	Ore	Sem.	TAF	Anno
Analog Circuit Design	ING-INF/01	6	60	I	D	I anno
Networking	ING-INF/03	6	48	I	D	I anno
Computational Electromagnetics	ING-INF/02	6	48	II	D	I anno
RFID Technologies	ING-INF/02	6	48	I	D	II anno
Advanced Computer Architecture	ING-INF/05	6	48	I	D	II anno
Digital Modelling, Design and Manufacturing	ING-IND/13	6	54	I	D	II anno
Mobile Communications and IoT	ING-INF/03	6	48	II	D	II anno
Cybersecurity	ING-INF/03	6	54	II	D	II anno