

Guide for the preparation of the study plan for the curriculum “Electronics for intelligent systems, big-data and internet of things (EBIT)”

The following table is intended to provide a support to the choice of courses to be included in the study plan of the curriculum “Electronics for intelligent systems, big-data and internet of things (EBIT)” for students enrolled in A.Y. 2023-24. The courses are grouped for year and type (mandatory, elective type B, elective type C, elective type F, elective type D) and are listed in alphabetic order within each group. Each group corresponds to a group of choices in the study plan. The last four columns on the right correspond to the thematic areas (Micro/nanoelectronics, Integrated circuits, Architectures and systems for AI and IoT, Signals and data processing) addressed in the Master Program. For each course the relevant thematic areas are indicated.

The table is provided with the sole purpose of orienting the students, who are allowed to choose courses freely from different thematic areas for each group of choice, according to the rules of the Master Program.

	Code	Courses	CFU	Micro/nano-electronics	Integrated circuits	Architectures and systems for AI and IoT	Signals and data processing
Mandatory 1st year	93392	ANALOG CIRCUITS AND SENSOR SYSTEMS M	9		X	X	
	93390	DIGITAL SYSTEMS AND INTRODUCTION TO COMPUTER ARCHITECTURES M	9		X	X	
	93393	ELECTRONIC FRONTIERS M	3	X	X	X	
	29161	MATHEMATICAL METHODS M	6	X	X	X	X
	93395	RELIABLE DATA PROCESSING AND STORAGE FOR INTELLIGENT SYSTEMS M	6		X	X	
	93391	SEMICONDUCTOR DEVICES AND QUANTUM-COMPUTING M	9	X			
	84457	SIGNAL ACQUISITION AND PROCESSING M	6			X	X
Elective type B (6 CFU) 1st year	90392	ELEMENTS OF APPLIED DATA SECURITY M	6				X
	84442	HIGH FREQUENCY ELECTRONIC CIRCUITS M	6		X	X	

Elective type C (6 CFU) 1st year	99195	CYBER-PHYSICAL SYSTEMS PROGRAMMING M	6			x	x
	81683	INTERNET OF THINGS	6			x	
	73548	WIRELESS SENSOR NETWORKS M	6			x	
Mandatory 2nd year	93397	HARDWARE SOFTWARE DESIGN OF AI AND IOT SYSTEMS M (Integrated course)	12			x	
	87198	STATISTICS AND ARCHITECTURES FOR BIG DATA PROCESSING M	6			x	x
Elective type C (6 CFU) 2nd year	87216	BIG DATA COMMUNICATIONS M	6				x
	91250	DEEP LEARNING	6				x
	95601	OPTIMIZATION AND MACHINE LEARNING M	6				x
	69441	OPTIMIZATION MODELS AND ALGORITHMS M	6				x
Elective type F (9 CFU) 2nd year	84468	INDUSTRIAL TRENDS IN ELECTRONICS M	3	x	x	x	x
	87195	LAB OF BIG DATA ARCHITECTURES M	3			x	
	84419	LAB OF DIGITAL ELECTRONICS M	3			x	
	72972	LAB OF HIGH-FREQUENCY CIRCUIT DESIGN M	3		x	x	
	93324	LAB OF INTELLIGENT SENSOR SYSTEMS M	3			x	
	93323	LAB OF RELIABLE INTELLIGENT SYSTEMS M	3		x	x	
	37700	PRELIMINARY FINAL PROJECT WORK M	3	x	x	x	x

Suggestions for freely chosen courses type D (12 CFU) 2nd year	87236	ELECTRIC POWER SYSTEMS M	6			x	
	81610	MACHINE LEARNING	6				x
	78810	REAL TIME SYSTEMS FOR AUTOMATION M	12				x
	87205	TECHNOLOGIES AND APPLICATIONS OF WIRELESS POWER TRANSFER M	6			x	
	...	<i>Any other course not yet chosen from preceding tables</i>	...				