UNIVERSITÀ DI TRENTO
Department of Industrial Engineering

MASTER COURSE IN MECHATRONICS ENGINEERING - A.A. 2024/25

A2 Curriculum Electronics and robotics

FIRST YEAR

FIRST SEMESTER

Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes	PROFESSOR
146032	1	Digital signal processing for mechatronics	ING-INF/07	6		6				60		Macii David
146031	2	Mechanical design for mechatronics	ING-IND/14	9	9					90		Rustighi Emiliano
146029	3a	Mechatronic systems simulation - Mod. 1 Computational methods	MAT/08	6		6				60		Bertolazzi Enrico
146030	4a	Precision engineering - Mod. 1 Design of precision systems	ING-IND/12	6	6					60		Bosetti Paolo
		SAFETY COURSES									(1)	
			Tot.	27	15	12	0	0	0			

SECOND SEMESTER

Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes	PROFESSOR
140500	5	Automatic control	ING-INF/04	9		9				90		Zaccarian Luca
140417	6	Mechanical vibrations	ING-IND/13	6	6					60		Bortoluzzi Daniele
146029	3b	Mechatronic systems simulation - Mod. 2 Modeling	ING-IND/13	9	9					90		Biral Francesco
146030	4b	Precision engineering - Mod. 2 Digital manufacturing	ING-IND/16	6	6					60		Bosetti Paolo
		Other activities		3					3		(2)	
			Tot.	33	21	9	0	0	3			
			Tot. 1st year	**60**	**36**	**21**	**0**	**0**	**3**			

SECOND YEAR

FIRST SEMESTER

Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes	PROFESSOR
146036	7	Distributed estimation for robots and vehicles	ING-INF/07	6		6				60	6 cfu from AD 146033	Fontanelli Daniele
140506	8	Robotic perception and action	ING-IND/12	9	9					90		De Cecco Mariolino
140440	9	Industrial robotics	ING-IND/13	6	6					60		Bortoluzzi Daniele
146037	10	Embedded systems	ING-INF/01	6		6				60	6 cfu from AD 140502	Brunelli Davide
145781	11	Advanced optimization-based robot control	ING-INF/04	6		6				48	offered by DISI from AD 146216	Del Prete Andrea
			Tot.	33	15	18	0	0	0			

SECOND SEMESTER

Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes	PROFESSOR
	12a	Elective course		6			6			60	(3)	
	12b	Elective course		6			6			60	(3)	
140458		Final project		15				15				
			Tot.	27	0	0	12	15	0			
			Tot. 2nd year	**60**	**15**	**18**	**12**	**15**	**0**			

TOTAL CFU	120	51	39	12	15	3

ELECTIVE COURSES

FIRST SEMESTER

Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes	PROFESSOR
145783		Advanced Formula SAE		6			6					Bosetti Paolo

SECOND SEMESTER

Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes	PROFESSOR
140474		Computer vision	ING-INF/03	6			6			48	offered by DISI	Conci Nicola
146292		Laboratory of optoelectronic devices for sensing and automation	FIS/01	6			6			60		Lobino Mirko
145782		Laboratory of Internet of Things	ING-INF/01	6			6			60		Brunelli Davide
146197		Microelectronics devices, sensors and MEMS	ING-INF/01	6			6			60		Dalla Betta Gian-Franco
145958		Network dynamics	ING-INF/04	6			6			60	offered by LM 31 - AD 146007 mod. 2	Giordano Giulia
140473		Quality and innovation engineering	ING-INF/07	6			6			60	offered by LM 31	Petri Dario
146301		Unmanned vehicles design and programming	ING-INF/01	6			6			60		Brunelli Davide

NOTES:

(1) = All students must have the certifications of:
- the **general training course "Sicurezza formazione generale"**, or similar course;
- the **specific training course - medium risk "Sicurezza in laboratorio- UniTrento"**, or similar course;
- For any further information about safety training, please visit the website: https://infostudenti.unitn.it/en/safety-training-for-students

(2) = The curriculum is considered complete with a total of 3CFU - type F. The credits have to be obtained during the master with the following regulation: https://www.dii.unitn.it/en/121/other-activities-type-f-credits.

(3) = Different elective modules - not included in the Manifesto - have to be approved by the Teaching board of the Department.

Approved on 17/04/2024 by the Department's Board