



**MASTER COURSE IN BIOENGINEERING FOR PERSONALIZED MEDICINE (LM 21) - A.A. 2024/2025**

**A1 Curriculum Digital Healthcare**

FIRST YEAR												
FIRST SEMESTER												
Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes	PROFESSOR
146249	1	System physiology and integrated biological processes	BIO/09	6	6					48		Piccoli Giovanni
146250	2a	Medical devices quality and safety (Mod. 1 Medical devices quality and safety)	ING-IND/34	6	6					52		Nollo Giandomenico
	2b	Medical devices quality and safety (Mod. 2 Value based health care)	ING-INF/06	3	3					24		
146251	3a	Fundamentals of materials engineering and biomechanics for healthcare applications (Mod. 1 Materials)	ING-IND/22	6	6					48		Pegoretti Alessandro
	3b	Fundamentals of materials engineering and biomechanics for healthcare applications (Mod. 2 Biomechanics)	ING-IND/14	6		6				48		Fontanari Vigilio
<b>SAFETY COURSES</b>											(1)	
				<i>Tot.</i>	27	21	6	0	0	0		
SECOND SEMESTER												
Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes	PROFESSOR
146252	4a	Informatics and electronics for healthcare 4.0 (Mod. 1 Cloud computing and Distributed systems)	ING-INF/05	6		6				48		Carra Damiano
	4b	Informatics and electronics for healthcare 4.0 (Mod. 2. Embedded electronics and sensors)	ING-INF/01	6	6					52		Brunelli Davide
146253	5a	Complements of bioengineering (Mod. 1 - Design and manufacturing of biomedical products)	ING-IND/34	6	6					52		Tirella Annalisa
	5b	Complements of bioengineering (Mod. 2 - Data engineering for biomedical sciences)	ING-INF/06	6	6					52		Rovati Luigi
146260	6	Medical imaging laboratory	ING-INF/06	6	6					52		Boscolo Galazzo Ilaria
		Other activities		3					3		(2)(3)	
				<i>Tot.</i>	33	24	6	0	0	3		
<b>Tot. 1st year</b>				<b>60</b>	<b>45</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>3</b>			

SECOND YEAR - INACTIVE A.A. 24/25												
FIRST SEMESTER												
Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes	
146261	7	Advanced signals processing and modeling of physiological systems	ING-INF/06	6	6					52		
146262	8	Modelling and analysis of human movement	ING-IND/13	6		6				52		
146263	9	Robotics and assistive devices in medicine	ING-INF/04	6		6				48		
	12a	Elective course		6			6			48		
				<i>Tot.</i>	24	6	12	6	0	0		
SECOND SEMESTER												
Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes	
146264	10	Artificial intelligence for biomedical problems solving	ING-INF/06	6	6					52		
146259	11	Laboratory diagnostics for precision medicine	MED/04	6	6					48		
	12b	Elective course		6			6			48		
146265		Final project		18				18				
				<i>Tot.</i>	36	12	0	6	18	0		
<b>Tot. 2nd year</b>				<b>60</b>	<b>18</b>	<b>12</b>	<b>12</b>	<b>18</b>	<b>0</b>			

<b>TOTAL CFU</b>	<b>120</b>	<b>63</b>	<b>24</b>	<b>12</b>	<b>18</b>	<b>3</b>
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**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) = **International students** are required to demonstrate an adequate level of competence of the Italian Language (Level A1 CEFR – 3 ECTS/CFU – type F) before starting the exam session of the second year.

Approved on 13/03/2024 by the Department's Board