

MASTER COURSE IN MATERIALS ENGINEERING (LM 53) - A.A. 2025/2026

A2 Curriculum Energy, Environment and Sustainable Development

FIRST YEAR											
FIRST SEMESTER											
Esse3 code	N°	Courses	SSD	SSD 2024	CFU	B	C	D	E	F	Duration (hours)
146020	1	Ceramic materials engineering	ING-IND/22	IMAT-01/A	6	6					60
146019	2	Engineering properties of materials	ING-IND/22	IMAT-01/A	9	9					90
146018	3	Metallic materials engineering	ING-IND/21	IIND-03/C	9	9					90
146016	4a	Physics and thermodynamics of materials (Mod. 2 - Thermodynamics of materials)	CHIM/07	CHEM-06/A	6	6					60
		SAFETY COURSES									(1)
				Tot. 1° sem	30	30	0	0	0	0	
SECOND SEMESTER											
Esse3 code	N°	Courses	SSD	SSD 2024	CFU	B	C	D	E	F	Duration (hours)
146016	4b	Physics and thermodynamics of materials (Mod. 1 - Physics of materials)	FIS/03	PHYS-03/A	6	6					60
146021	5	Corrosion and degradation control of materials	ING-IND/22	IMAT-01/A	6	6					60
146017	6a	Polymeric and composite materials engineering (Mod. 1 - Polymeric materials)	ING-IND/22	IMAT-01/A	6	6					60
	6b	Polymeric and composite materials engineering (Mod. 2 - Composite materials)	ING-IND/22	IMAT-01/A	6	6					60
		Other activities			3					3	(2)(3)
				Tot. 2° sem	27	24	0	0	0	3	
				Tot. 1st year	57	54	0	0	0	3	

PROFESSOR
Sglavo Vincenzo
Dorigato Andrea
Straffelini Giovanni
Parrino Francesco

PROFESSOR
Quaranta Alberto
Fedel Michele
Fambri Luca
Pegoretti Alessandro

SECOND YEAR											
FIRST SEMESTER											
Esse3 code	N°	Courses	SSD	SSD 2024	CFU	B	C	D	E	F	Duration (hours)
146022	7	Electrochemistry for energy and environment	ING-IND/23	ICHI-01/A	6		6				60
140429	8	Materials for energy	ING-IND/22	IMAT-01/A	6		6				60
145957	9	Mechanics and materials for engineering design	ING-IND/14	IIND-03/A	9		9				90
146023	10	Nanomaterials, nanotechnologies and smart materials	ING-IND/22	IMAT-01/A	6		6				60
	12a	Elective course			6			6			
				Tot. 1° sem	33	0	27	6	0	0	
SECOND SEMESTER											
Esse3 code	N°	Courses	SSD	SSD 2024	CFU	B	C	D	E	F	Duration (hours)
145486	11	Recycling and sustainable materials	ING-IND/22	IMAT-01/A	6	6					60
	12b	Elective course			6			6			
145570		Final project			18				18		
				Tot. 2° sem	30	6	0	6	18	0	
				Tot. 2nd year	63	6	27	12	18	0	
TOTAL CFU					120	60	27	12	18	3	

PROFESSOR
Fedel Michele
Soraru Gian Domenico
Benedetti Matteo
Lutterotti Luca

PROFESSOR
Pegoretti Alessandro

ELECTIVE COURSES											
FIRST SEMESTER											
Esse3 code	N°	Courses	SSD	SSD 2024	CFU	B	C	D	E	F	Duration (hours)
146299		Laboratory of sustainable materials processing and characterization	ING-IND/22	IMAT-01/A	6			6			60
145532		Powder metallurgy	ING-IND/21	IIND-03/C	6			6			60
145783		Advanced Formula SAE	ING-IND/12	IMIS-01/A	6			6			offered by LM 33
SECOND SEMESTER											
Esse3 code	N°	Courses	SSD	SSD 2024	CFU	B	C	D	E	F	Duration (hours)
145572		Circular economy for materials processing	ING-IND/21	IIND-03/C	6			6			60
140427		Glass engineering	ING-IND/22	IMAT-01/A	6			6			60
146300		Laboratory of industrial product and process development	ING-IND/21	IIND-03/C	6			6			60
146197		Microelectronics devices, sensors and MEMS	ING-INF/01	IINF-01/A	6			6			offered by LM 33
145524		Protection of materials and structures	ING-IND/22	IMAT-01/A	6			6			60

PROFESSOR
Dirè Sandra
Molinari Alberto
Bosetti Paolo

PROFESSOR
Pellizzari Massimo
Sglavo Vincenzo
Pellizzari Massimo
Dalla Betta Gian-Franco
Rossi Stefano

NOTES:

(1) = All students must fulfill **safety training requirements**:

- **General safety training**
- **Specific safety training - Medium Risk**

For any further informations: <https://www.unitn.it/en/study/register/documents-and-certificates/safety-training>

(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 knowledge of the Italian language (level A1).