



MASTER COURSE IN MANAGEMENT AND INDUSTRIAL SYSTEMS ENGINEERING

LM31

A1) Curriculum Design and Sustainability

a.a. 2022-23

FIRST YEAR											
FIRST SEMESTER											
Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes
146004	1a	Digital production and logistics systems - mod. 1 Design of digital production and assembly systems	ING-IND/17	6	6					60	
	1b	Digital production and logistics systems - mod. 2 Logistics and warehouse management	ING-IND/17	6	6					60	
146005	2a	Organizations, human resources and innovation - mod. 1 Organization studies and human resources management	ING-IND/35	6	6					60	
	2b	Organizations, human resources and innovation - mod. 2 Management, innovation and change	ING-IND/35	6	6					60	
146006	3a	Advanced manufacturing and sustainable products - mod. 1 Design of smart and sustainable manufacturing	ING-IND/16	6	6					60	
<b>SAFETY COURSES</b>											
											(1)
				Tot.	30	30	0	0	0	0	
SECOND SEMESTER											
Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes
146006	3b	Advanced manufacturing and sustainable products - mod. 2 Simulation of manufacturing processes	ING-IND/16	6	6					60	
146007	4a	Dynamics in systems and networks - mod. 1 Dynamical systems	ING-INF/04	6	6					60	
	4b	Dynamics in systems and networks - mod. 2 Network dynamics	ING-INF/04	6	6					60	
146008	5	Decision and risk analysis	SECS-S/06	6		6				60	
146014	6	Project management	ING-IND/17	6	6					60	
		Other activities		3					3		(2) (3)
				Tot.	33	24	6	0	0	3	
				Tot. 1st year	63	54	6	0	0	3	

PROFESSOR
Pilati Francesco
Minati Marco
Cirella Stefano
Cirella Stefano
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PROFESSOR
Zanella Caterina
Zaccarian Luca
Giordano Giulia
Brunelli Matteo
Molinari Andrea

SECOND YEAR											
FIRST SEMESTER											
Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes
146009	7	Engineering system design	ING-IND/14	6		6				60	
146011	8	Materials selection for engineering design	ING-IND/22	6		6				60	
	12a	Elective course		6			6				(4)
				Tot.	18	0	12	6	0	0	
SECOND SEMESTER											
Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes
146012	9	Financial analysis and performance management	SECS-P/07	6		6				60	
146010	10	Sustainable materials management	ING-IND/21	6		6				60	
146013	11	Strategic product design	ING-IND/22	6		6				60	
	12b	Elective course		6			6				(4)
140458		Final project		15				15			
				Tot.	33	0	12	6	15	0	
				Tot. 2nd year	51	0	24	12	15	0	
				TOTAL CFU	114	54	30	12	15	3	

PROFESSOR
Rustighi Emiliano
Gialanella Stefano

PROFESSOR
Candio Francesco Paolo
Pellizzari Massimo
Rossi Stefano

ELECTIVE COURSES											
FIRST SEMESTER											
Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes
146042		Distributed robot perception	ING-INF/07	6			6			60	offered by LM 33
146113		Design of precision systems	ING-IND/12	6			6			60	offered by LM 33 - AD 146030 mod. 1
145530		Industrial systems modeling	ING-INF/05	6			6			60	
SECOND SEMESTER											
Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes
146167		Managing industrial systems in the context of high product variety	ING-IND/35	6			6			60	
145572		Circular economy for materials processing	ING-IND/21	6			6			60	offered by LM 53
145782		Laboratory of the Internet of Things	ING-INF/01	6			6			60	offered by LM 33
145486		Recycling and sustainable materials	ING-IND/22	6			6			60	offered by LM 53
140431		Modeling and design with finite elements	ING-IND/14	6			6			60	offered by LM 33

PROFESSOR
Fontanelli Daniele
Bosetti Paolo
Fedrizzi Mario

PROFESSOR
Suzic Nikola
Pellizzari Massimo
Brunelli Davide
Pegoretti Alessandro
Benedetti Matteo

NOTES:

- (1) = To access the research facilities of the Department is required to have obtained the certifications of:
  - the course **Health and safety in the workplace** (Esse3 code FORGE) or similar courses;
  - the course **Sicurezza in laboratorio** (Esse3 code 140550) or similar specific training safety course - medium risk.
- (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.
- (4) = Different elective modules - not included in the Manifesto - have to be approved by the Teaching board of the Department.