



**MASTER COURSE IN MANAGEMENT AND INDUSTRIAL SYSTEMS ENGINEERING**

**LM31**

**A2) Curriculum Management and Digitalization**

**a.a. 2023-24**

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 new technology	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)
		<i>Tot.</i>		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)
		<i>Tot.</i>		33	24	6	0	0	3		
		<b>Tot. 1st year</b>		<b>63</b>	<b>54</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>3</b>		

PROFESSOR
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Cirella Stefano
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Zanella Caterina

PROFESSOR
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Giordano Giulia
Giordano Giulia
Brunelli Matteo
Molinari Andrea

SECOND YEAR											
FIRST SEMESTER											
Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes
146012	7	Financial analysis and performance management	SECS-P/07	6		6				60	
146015	8	Machine learning	ING-INF/05	6		6				60	offered by DISI
145534	9	Optimization models and algorithms	SECS-S/06	6		6				60	
	12a	Elective course		6			6				(3)
		<i>Tot.</i>		24	0	12	6	0	0		
SECOND SEMESTER											
Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes
145489	10	Enterprise information system	ING-INF/05	6		6				60	
140473	11	Quality and innovation engineering	ING-INF/07	6		6				60	
	12b	Elective course		6			6				(3)
140458		Final project		15				15			
		<i>Tot.</i>		33	0	12	6	15	0		
		<b>Tot. 2nd year</b>		<b>57</b>	<b>0</b>	<b>24</b>	<b>12</b>	<b>15</b>	<b>0</b>		
		<b>TOTAL CFU</b>		<b>120</b>	<b>54</b>	<b>30</b>	<b>12</b>	<b>15</b>	<b>3</b>		

PROFESSOR
Candio Paolo
Passerini Andrea
Brunelli Matteo

PROFESSOR
Mich Luisa
Petri Dario

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	
146167		Managing industrial systems in the context of high product variety	ING-IND/35	6			6			60	
SECOND SEMESTER											
Esse3 code	N°	Courses	SSD	CFU	B	C	D	E	F	Duration (hours)	Notes
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
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DA DEFINIRE
Suzic Nikola

PROFESSOR
Pellizzari Massimo
Brunelli Davide
Pegoretti Alessandro
Benedetti Matteo

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

**Approved on 15/02/2023 by the Department's Board**