# UNIVERSITÀ DI TRENTO
Department of Industrial Engineering

## MASTER COURSE IN MANAGEMENT AND INDUSTRIAL SYSTEMS ENGINEERING — LM31

### A2) Curriculum Management and Digitalization — a.a. 2024-25

**FIRST YEAR**

**FIRST SEMESTER**

| Esse3 code | N° | Courses | SSD | CFU | B | C | D | E | F | Duration (hours) | Notes | PROFESSOR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 146004 | 1a | Digital production and logistics systems - mod. 1 Design of digital production and assembly systems | ING-IND/17 | 6 | 6 | | | | | 60 | | Pilati Francesco |
| | 1b | Digital production and logistics systems - mod. 2 Logistics and warehouse management | ING-IND/17 | 6 | 6 | | | | | 60 | | Pilati Francesco |
| 146005 | 2a | Organizations, human resources and innovation - mod. 1 Organization studies and human resources management | ING-IND/35 | 6 | 6 | | | | | 60 | | Cirella Stefano |
| | 2b | Organizations, human resources and innovation - mod. 2 Management, innovation and new technology | ING-IND/35 | 6 | 6 | | | | | 60 | | Cirella Stefano |
| 146006 | 3a | Advanced manufacturing and sustainable products - mod. 1 Design of smart and sustainable manufacturing | ING-IND/16 | 6 | 6 | | | | | 60 | | Zanella Caterina |
| | | *SAFETY COURSES* | | | | | | | | | (1) | |
| | | Tot. | | 30 | 30 | 0 | 0 | 0 | 0 | | | |

**SECOND SEMESTER**

| Esse3 code | N° | Courses | SSD | CFU | B | C | D | E | F | Duration (hours) | Notes | PROFESSOR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 146006 | 3b | Advanced manufacturing and sustainable products - mod. 2 Simulation of manufacturing processes | ING-IND/16 | 6 | 6 | | | | | 60 | | Zanella Caterina |
| 146007 | 4a | Dynamics in systems and networks - mod. 1 Dynamical systems | ING-INF/04 | 6 | 6 | | | | | 60 | | Giordano Giulia |
| | 4b | Dynamics in systems and networks - mod. 2 Network dynamics | ING-INF/04 | 6 | 6 | | | | | 60 | | Giordano Giulia |
| 146008 | 5 | Decision and risk analysis | SECS-S/06 | 6 | | 6 | | | | 60 | | Brunelli Matteo |
| 146014 | 6 | Project management | ING-IND/17 | 6 | 6 | | | | | 60 | | Molinari Andrea |
| | | Other activities | | 3 | | | | | 3 | | (2) (3) | |
| | | Tot. | | 33 | 24 | 6 | 0 | 0 | 3 | | | |
| | | **Tot. 1st year** | | **63** | **54** | **6** | **0** | **0** | **3** | | | |

**SECOND YEAR**

**FIRST SEMESTER**

| Esse3 code | N° | Courses | SSD | CFU | B | C | D | E | F | Duration (hours) | Notes | PROFESSOR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 146012 | 7 | Financial analysis and performance management | SECS-P/07 | 6 | | 6 | | | | 60 | | Candio Paolo |
| 146015 | 8 | Machine learning | ING-INF/05 | 6 | | 6 | | | | | offered by DISI | Passerini Andrea |
| 145534 | 9 | Optimization models and algorithms | SECS-S/06 | 6 | | 6 | | | | 60 | | Brunelli Matteo |
| | 12a | Elective course | | 6 | | | 6 | | | | (4) | |
| | | Tot. | | 24 | 0 | 18 | 6 | 0 | 0 | | | |

**SECOND SEMESTER**

| Esse3 code | N° | Courses | SSD | CFU | B | C | D | E | F | Duration (hours) | Notes | PROFESSOR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 145489 | 10 | Enterprise information system | ING-INF/05 | 6 | | 6 | | | | 60 | | Mich Luisa |
| 140473 | 11 | Quality and innovation engineering | ING-INF/07 | 6 | | 6 | | | | 60 | | Petri Dario |
| | 12b | Elective course | | 6 | | | 6 | | | | (4) | |
| 140458 | | Final project | | 15 | | | | 15 | | | | |
| | | Tot. | | 33 | 0 | 12 | 6 | 15 | 0 | | | |
| | | **Tot. 2nd year** | | **57** | **0** | **30** | **12** | **15** | **0** | | | |
| | | **TOTAL CFU** | | **120** | **54** | **36** | **12** | **15** | **3** | | | |

**ELECTIVE COURSES**

**FIRST SEMESTER**

| Esse3 code | N° | Courses | SSD | CFU | B | C | D | E | F | Duration (hours) | Notes | PROFESSOR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 146042 | | Distributed robot perception | ING-INF/07 | 6 | | | 6 | | | 60 | offered by LM 33 | Fontanelli Daniele |
| 146113 | | Design of precision systems | ING-IND/12 | 6 | | | 6 | | | 60 | offered by LM 33 - AD 146030 mod. 1 | Bosetti Paolo |
| 145530 | | Industrial systems modeling | ING-INF/05 | 6 | | | 6 | | | 60 | | Fedrizzi Mario |
| 146284 | | Product variety management | ING-IND/35 | 6 | | | 6 | | | 60 | | Suzic Nikola |

**SECOND SEMESTER**

| Esse3 code | N° | Courses | SSD | CFU | B | C | D | E | F | Duration (hours) | Notes | PROFESSOR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 145572 | | Circular economy for materials processing | ING-IND/21 | 6 | | | 6 | | | 60 | offered by LM 53 | Pellizzari Massimo |
| 145782 | | Laboratory of Internet of Things | ING-INF/01 | 6 | | | 6 | | | 60 | offered by LM 33 | Brunelli Davide |
| 140431 | | Modeling and design with finite elements | ING-IND/14 | 6 | | | 6 | | | 60 | offered by LM 33 | Benedetti Matteo |
| 145486 | | Recycling and sustainable materials | ING-IND/22 | 6 | | | 6 | | | 60 | offered by LM 53 | Pegoretti Alessandro |

**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 on13/03/2024 by the Department's Board**