



## Regolamento didattico

**LM/FS**  
2022/2023

**Classi:** **LM-30 - Ingegneria Energetica**

**DM270/2004**

**Sede:** **Pesaro**

**CdS:** **Green Industrial Engineering**

*Sustainable Energy Transition  
Sustainable Manufacturing*

### Anno: 1

| Tip. DM | Tip. AF         | SSD        | Offerta formativa                     | CFU |
|---------|-----------------|------------|---------------------------------------|-----|
| b)      | Caratterizzante | ING-IND/09 | Energy conversion and storage systems | 9   |
| b)      | Caratterizzante | ING-IND/10 | Sustainable Energy                    | 9   |
| b)      | Caratterizzante | ING-IND/15 | Tools and Methods for Ecodesign       | 9   |
| b)      | Caratterizzante | ING-IND/32 | Electrical Machines and Smart Grids   | 9   |
| c)      | Affini          | ING-IND/14 | Structural design of energy systems   | 9   |
| c)      | Affini          | ING-INF/05 | Data Science for Eco-sustainability   | 9   |
| c)      | Affini          | SECS-P/06  | Environmental economics and policy    | 9   |

**Anno: 1 () - Totale CFU: 63**

### Anno: 2 (attivo dall'A.A. 2023/2024)

| Tip. DM | Tip. AF | SSD | Offerta formativa                                 | CFU |
|---------|---------|-----|---------------------------------------------------|-----|
| f)      | Altre   | -   | Elective Courses taught in English (non attivato) | 12  |
| f)      | Altre   | -   | Internship (non attivato)                         | 3   |
| f)      | Altre   | -   | Thesis (non attivato)                             | 12  |

**Anno: 2 () - Totale CFU: 27**

#### Sustainable Energy Transition

|    |                 |            |                                                                      |   |
|----|-----------------|------------|----------------------------------------------------------------------|---|
| b) | Caratterizzante | ING-IND/10 | Heat and Mass transfer (non attivato)                                | 9 |
| b) | Caratterizzante | ING-IND/25 | Chemical processes and plants for circular bioeconomy (non attivato) | 9 |
| c) | Affini          | GEO/08     | Geothermal Resources (non attivato)                                  | 6 |
| c) | Affini          | ING-IND/06 | Computational Fluid Dynamics for Energy Engineering (non attivato)   | 6 |

**Anno: 2 (: Sustainable Energy Transition) - Totale CFU: 30 + 27 comuni = 57**

#### Sustainable Manufacturing

|    |                 |            |                                                        |    |
|----|-----------------|------------|--------------------------------------------------------|----|
| b) | Caratterizzante | ING-IND/09 | Energy Efficiency in Production Systems (non attivato) | 12 |
|----|-----------------|------------|--------------------------------------------------------|----|

|                                                                                |        |            |                                                           |   |
|--------------------------------------------------------------------------------|--------|------------|-----------------------------------------------------------|---|
| c)                                                                             | Affini | BIO/07     | Theoretical and Applied Ecology (non attivato)            | 6 |
| c)                                                                             | Affini | ING-IND/16 | Advanced Sustainable Production Systems (non attivato)    | 6 |
| c)                                                                             | Affini | ING-INF/04 | Fault Diagnosis and Predictive Maintenance (non attivato) | 6 |
| <b>Anno: 2 (: Sustainable Manufacturing) - Totale CFU: 30 + 27 comuni = 57</b> |        |            |                                                           |   |

**Totale CFU 2 anni: 120**

#### Riepilogo Attività Formative

| Attività                                            | Min DM | CFU Ordinamento    | CFU MANU | CFU ENE_T |
|-----------------------------------------------------|--------|--------------------|----------|-----------|
| b) - Caratterizzanti la Classe                      | 45     | 48 - 70            | 48       | 54        |
| c) - Affini ed integrative                          | 24     | 24 - 45            | 45       | 39        |
| f) - Altre attività formative (D.M. 270 art. 10 §5) |        | 24 - 45            | 24       | 24        |
|                                                     |        | Tirocini Formativi | 3        | 3         |
| <b>Totale</b>                                       |        |                    | 120      | 120       |

#### Offerta a scelta libera dello studente (OL) per i corsi a scelta

| SSD        | Offerta formativa                                                                                                  | Anno | CFU |
|------------|--------------------------------------------------------------------------------------------------------------------|------|-----|
| GEO/01     | Climate variability and impacts (non attivato) ( <b>STATUTARIO per curriculum "Sustainabl Energy Transition"</b> ) | 2    | 6   |
| ICAR/01    | Hydraulics for the Energy Harvesting (non attivato)                                                                | 2    | 6   |
| ICAR/08    | Structures for Green Energy (non attivato)                                                                         | 2    | 6   |
| ING-IND/12 | Smart Systems for Sustainable Processes and Products (non attivato)                                                | 2    | 6   |
| ING-IND/13 | Robots and intelligent machines for production sustainability (non attivato)                                       | 2    | 6   |
| ING-IND/14 | Finite elements Analysis for Green Plants (non attivato)                                                           | 2    | 6   |
| ING-IND/17 | Industrial Sustainability Management (non attivato)                                                                | 2    | 6   |
| ING-IND/21 | Advanced Materials for energy applications (non attivato)                                                          | 2    | 6   |
| ING-INF/02 | Electromagnetic Energy Harvesting (non attivato)                                                                   | 2    | 6   |
| ING-INF/03 | Blockchain and data security management (non attivato) ( <b>STATUTARIO per entrambi i curricula</b> )              | 2    | 6   |
| MAT/09     | Optimization Methods in Green and Smart Manufacturing (non attivato)                                               | 2    | 6   |
| SECS-P/06  | Energy and Resource Economy (non attivato) ( <b>STATUTARIO per curriculum "Sustainable Manufacturing"</b> )        | 2    | 6   |