

MCHR: MANIFESTO DEGLI STUDI 2023/24

Curriculum Chemical Engineering for Innovative Processes and Products

Fundamental mandatory courses

| Course | SSD | CFU | Type | Verifica | Semester | Activity |
|--|------------|-----|------|----------|----------|----------|
| Mathematical methods for chemical engineering | MAT/05 | 6 | CR | E | 1 | 5B |
| | MAT/06 | 3 | | | | |
| Non equilibrium thermodynamics with an application to the microscale | ING-IND/24 | 9 | CR | E | 1 | 1B |
| Separation processes with an application to lab-on-chips | ING-IND/24 | 9 | CR | E | 1 | 1B |
| Economics of technology and management | ING-IND/35 | 9 | CR | E | 2 | 5B |
| Theory and development of process design | ING-IND/26 | 9 | CR | E | 2 | 1B |
| Water treatment processes and environmental technology | ING-IND/25 | 9 | CR | E | 3 | 1B |
| Computer aided process control | ING-IND/25 | 9 | CR | E | 3 | 1B |

Eligible courses

| 4 courses selected among the following: | SSD | CFU | Type | Verifica | Semester | Activity |
|---|--------------------------|-----|------|----------|----------|----------|
| Applied metallurgy | ING-IND/21 | 6 | CR | E | 1 | 1B |
| Green and sustainable hydrogen production | ING-IND/24 ING-IND/25 | 6 | CR | E | 1 | 1B |
| Process and product safety in the chemical industry | ING-IND/27 | 6 | CR | E | 1 | 1B |
| Corrosion engineering | ING-IND/22 | 6 | CR | E | 2 | 1B |
| Principles of biochemical engineering | ING-IND/24 | 6 | CR | E | 2 | 1B |
| Nanobiotechnology | ING-IND/25 | 6 | CR | E | 3 | 1B |
| Sustainable design of materials | ING-IND/22 | 6 | CR | E | 4 | 1B |
| Green chemistry and process engineering | ING-IND/27 | 6 | CR | E | 4 | 1B |
| Transport phenomena in microsystems and micro/nano reactive devices | ING-IND/24 | 6 | CR | E | 4 | 1B |
| Computational methods for chemical and biochemical reactor dynamics | ING-IND/26 | 6 | CR | E | 4 | 1B |

Other

| Activity | CFU |
|----------------------------|-----|
| Free selection courses (*) | 12 |
| Final Thesis | 20 |
| Seminars | 1 |

(*) For the 12 free eligible credits students are invited to select from English language courses given in the Master of Chemical Engineering.

Legend

CFU: Credits, ECTS

SSD: Discipline

Type:

CR: regular course

CL: laboratory course

Exam:

E: exam

V: passed/non passed

Activity:

1A: fundamental

1B: characterizing

5A: elective

5B: integrating

5C: final laurea

5D: other

5E: stage

Semester:

1: 1st semester, 1st year

2: 2nd semester, 1st year

3: 1st semester, 2nd year

4: 2nd semester, 2nd year