

MCHR: “MANIFESTO DEGLI STUDI” 2024/25

Curriculum: Chemical Engineering for Innovative Processes and Products

Fundamental mandatory courses

Course	SSD	CFU	Type	Verification	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
Chemical Reactors	ING-IND/24	9	CR	E	2	1B
Economics of Technology & Management	ING-IND/35	9	CR	E	2	5B
Theory and development of process design	ING-IND/26	9	CR	E	2	1B
Computer aided process control	ING-IND/25	9	CR	E	3	1B
Chemical and biochemical plants	ING-IND/25	9	CR	E	3	1B

Eligible courses

4 courses selected among the following	SSD	CFU	Type	Verification	Semester	Activity
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
Transport phenomena in multiphase systems	ING-IND/24	6	CR	E	1	1B
Applied metallurgy	ING-IND/21	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
Environmental chemical engineering	ING-IND/25	6	CR	E	3	1B
Computational methods for chemical and biochemical reactor dynamics	ING-IND/26	6	CR	E	4	1B
Green chemistry and process engineering	ING-IND/27	6	CR	E	4	1B
Sustainable design of materials	ING-IND/22	6	CR	E	4	1B
Transport phenomena in microsystems and micro/nano reactive devices	ING-IND/24	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