UNIVERSITÀ DEGLI STUDI DI PADOVA

MASTER'S (LM) DEGREE COURSE IN

CHEMICAL AND PROCESS ENGINEERING

Study programme for students enrolled in the academic year 2025-2026

1st YEAR		
MANDATORY UNITS	**CREDITS**	
CHEMICAL REACTION ENGINEERING	**12**	
INDUSTRIAL CHEMICAL PROCESSES	**12**	
MULTIPHASE THERMODYNAMICS AND TRANSPORT PHENOMENA	**9**	
PROCESS AND FLUID DYNAMICS SIMULATION	**9**	
PROCESS DYNAMICS AND CONTROL	**9**	
SEPARATION UNIT OPERATIONS	**9**	
2nd YEAR		
MANDATORY UNITS	**CREDITS**	
INDUSTRIAL PROCESS SAFETY AND RISK ANALYSIS	**6**	
PROCESS DESIGN	**6**	
FREE-CHOICE UNITS AMONG THE FOLLOWING (12 credits – "attività affini"**):**		
UNITS	**CREDITS**	**PROFILE**
BIOPROCESS ENGINEERING	**6**	**BT**
BUSINESS MANAGEMENT	**6**	**BT – ES NT- PFS**
ELECTROCHEMICAL ENERGY STORAGE TECHNOLOGIES	**6**	**NT**
ELECTROHEAT SCIENCE FOR MATERIALS TECHNOLOGIES AND CHEMICAL PROCESSES	**6**	**NT**
FOOD AND BIOPROCESS TECHNOLOGIES	**6**	**BT - PFS**
FUNDAMENTALS OF 3D BIOPRINTING	**6**	**BT- NT**
GREEN CHEMISTRY AND ENGINEERING	**6**	**ES**
INDUSTRIAL PROCESSES FOR BIOBASED AND SPECIALTY CHEMICALS	**6**	**BT - PFS**
LIFE CYCLE ENGINEERING OF CONTAMINATED SITES	**6**	**ES**
MACHINE LEARNING FOR PROCESS ENGINEERING	**6**	**NT - PFS**
MEMBRANE SEPARATION PROCESSES	**6**	**ES**

PARTICLE TECHNOLOGY FOR THE FOOD AND PHARMACEUTICAL INDUSTRIES	**6**	**PFS**
POLYMER PROCESSING AND RECYCLING	**6**	**ES**
PROCESS OPTIMIZATION AND SCHEDULING	**6**	**BT - PFS**
PROCESS TECHNOLOGIES FOR CARBON-NEUTRAL FUELS	**6**	**ES - NT**
STRATEGIC ENVIRONMENTAL MANAGEMENT	**6**	**ES**
ADDITIONAL FREE-CHOICE CREDITS (12 credits; including free-choice units not already selected)		
UNITS	**CREDITS**	
INDUSTRIAL APPLICATIONS AND METHODS IN CHEMICAL ENGINEERING	**6**	
	CREDITS	
ENGLISH LANGUAGE B2 (PRODUCTIVE SKILLS)	**3**	
FINAL THESIS	**21**	

ANY FURTHER NOTES

Attendance requirement: Although not mandatory, classroom attendance is strongly recommended. There are no propaedeutic units to attend the second-year activities.

The Master's degree proposes four profiles:

- Bioprocess technologies **BT**
- Environmental sustainability **ES**
- New technologies **NT**
- Pharma, food, and specialties **PFS**

However, profiles represent only a guideline and it is not mandatory to follow any profile when submitting the study plan.

If the free-choice activities are chosen from those offered by the degree course, the study plan will be automatically approved.

Students are required to submit their study plan through the UNIWEB platform as early as the first enrolment year.
This document has been prepared in Spring 2025. It is strongly recommended to check, at the beginning of each academic year, the correct placement of the course units in the semesters and the activation of the free-choice activities.