



## Partners:



UNIVERSITY  
OF TWENTE.



## More information:

Faculté des Sciences  
Université de Montpellier  
Département de Chimie  
Place Eugène Bataillon  
34095 Montpellier Cedex 5

MESD Coordinator :  
Pr Denis BOUYER  
[denis.bouyer@umontpellier.fr](mailto:denis.bouyer@umontpellier.fr)

Pr Damien QUÉMENER  
[damien.quemener@umontpellier.fr](mailto:damien.quemener@umontpellier.fr)

Contact :  
[mesd-project@umontpellier.fr](mailto:mesd-project@umontpellier.fr)

- Site Web :  
<https://mesd.edu.umontpellier.fr/>



Faculté des Sciences Montpellier

# Chimie

Erasmus Mundus Joint Master

## Parcours Master in Membrane Engineering for Sustainable Development (MESD)



The Master in Membrane Engineering for Sustainable Development, MESD, offers an advanced education programme related to membrane science and engineering at the interface between material science and chemical engineering and focused on specific applicative fields: Energy, Food, Bio and Health, and Water.

The language of instruction is English.



UNIVERSITÉ  
DE  
MONTPELLIER

FACULTÉ DES SCIENCES  
DE MONTPELLIER



Membrane Engineering for  
Sustainable Development



Funded by  
the European Union

# Master MESD

## Goals and applications:

The MESD architecture has been built in order to train the future professional in Membrane engineering to tackle the sustainability challenges

- Expand knowledge and educate students in Membrane Engineering in order to be inserted in industry or in academic research.
- Promote excellence, innovation, mobility and diversity in high-quality courses related to membrane science and engineering at the interface between material science and chemical engineering.
- Address environmental and sustainability challenges and to provide effective membrane-based solutions in the fields of Energy, Food, Bio and Health, and Water.

At the end of the master programme the graduates will have acquire several competences and skills such as:

- Theoretical and practical scientific competence in membrane engineering and sustainable processes (knowledge on material science, physics & chemistry, engineering & processes, modelling, nanoscience and nanotechnology, industrial and chemical processing)
- Transversal skills such as multilingual ; projet management and Information Technology skills
- Soft skills such as adaptability, knowledge of various European cultures and values.

## Eligibility Criteria:

To be eligible for application (admission and scholarship), students must meet the following requirements:

- Hold a Bologna 1st cycle degree or a Bachelor's degree in chemistry, physics, materials engineering, chemical engineering, bio-chemical engineering, or an equivalent degree, (180 ECTS). Students who are in their final year of study may be admitted, provided they submit their degree certificate of completion and official transcripts prior to enrolment.
- Provide evidence of English proficiency : Minimum level required CEFR, Common European Framework of Reference for Languages: B2.

## Architecture & Curricula:

The Master in Membrane Engineering for Sustainable Development (MESD) offers an advanced education programme related to membrane science and engineering at the interface between material science and chemical engineering. The master curricula are oriented to favor the job placement of graduates in academia or industry by focusing on key professional skills

The comprehensive curriculum takes into account the excellence areas of each partner and allows the students to acquire the basics of membrane engineering as well as to be specialized in a chosen field.

### ***FIRST YEAR TRACKS: scientific and transversal skills***

- Membrane Materials, Université de Montpellier, France
- Membrane Chemical Engineering, Université Toulouse III – Paul Sabatier, France
- Membrane Technologies and Project management, Universidad de Zaragoza, Spain

### ***SECOND YEAR TRACKS: membrane application fields related to sustainable development (and environment)***

- Energy, University of Twente, Netherlands
- Food, Bio and Health, Universidade NOVA de Lisboa, Portugal
- Water, Lund University, Sweden

## Duration :

The MESD has a duration of two years: 4 semesters.

Each semester includes 30 mandatory ECTS (European Credits Transfer System).

It is possible to validate additional ETCS (3 or 4) with additional teaching units. Each semester is organized by a different partner, which allows each student to follow the training in 3 different countries.