**Hydrogen technologies** can play a key role in reducing polluted emissions by mid-century, and be part of the mosaic of solutions needed to mitigate climate change

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# HySET

Erasmus Mundus Joint Master in
**Hydrogen Systems & Enabling Technologies**

www.hysetmaster.polito.it

## About US

## Core & Academia Partners

Politecnica di Torino

POLITECNICO MILANO 1863

NTNU
Norwegian University of Science and Technology

UPC

TU/e

## Industrial Associated Partners

REPSOL

safetec

SINTEF

snam

## What is HySET?

Erasmus Mundus Joint Master HySET is a collaborative two-years (120 ECTs) joint master degree programme with the goal to provide, in the field of Hydrogen Systems and Enabling Technologies, educate well-trained and enthusiastic professionals with an extensive multidisciplinary knowledge of hydrogen technologies and systems; their training occurs in an international, multicultural environment to stimulate global collaboration to cope with the complex challenges of the energy transition.

## Overall Goals

In line with the expectation of the EU economy and companies, and with the objectives of the European Commission, our Master aims to:

- Organise and focus strong **innovation in higher education** in the wide domain of Hydrogen technologies;
- Increase the **quality** and the attractiveness of the European Higher Education Area, and support the EU's external action by offering full degree **scholarships** to the best Master students worldwide;
- Improve the level of **competences and skills** of Master graduates, able to generate market effects for EU Companies, also through their involvement in the Master.

To do so, the objectives of our EMJM will be:

- Educate **top skilled engineers** that will be able to analyse, design, optimize and operate Hydrogen technologies and processes, with both a technology-focused and systemic vision.
- Individuate and train new **scientists** who will be open-minded and accustomed to implement an investigative approach in order to pursue PhD and thus be able to solve R&D issues.
- Provide the students with an **international network** fully immersed in a European learning context, generating an integrated cultural and language experience.
- Train successful professionals able to meet the needs of the **international job market**, including a multi- and inter-disciplinary approach.
- Foster a strict **connection** with the scientific-academic research, and industrial development and production sectors.
- Engage the best companies in the **Hydrogen** field.

# Organization of the master

## Two years in 5 top European universities

| Semester #1 | Semester #2 | Semester #3 | Semester #4 |
|---|---|---|---|
| POLITO (Torino, IT)<br>POLIMI (Milano, IT) | POLITO (Torino, IT)<br>POLIMI (Milano, IT) | NTNU (Trondheim, NO)<br>TU/e (Eindhoven, NL)<br>UPC (Barcelona, ES) | Company or Research Lab |
| **Parallel tracks on FUNDAMENTALS**<br>**60 ECTs**<br>The learning material of both parallel tracks, will be available to all the Y one students (independently if they are enrolled in TO or MI) to enlarge and complement their Intended Learning Outcomes (ILOs) | | **3 Specialization Tracks**<br>**NTNU**<br>**TU/e**<br>**UPC** | **Master thesis / Internship (30 ETCs)** |

# Extra curricula activities

**Scientific-Technological-Economic Challenge-based module (sem. 1 and 2)**
The students (by little groups) will have to discover solutions to an open problem and mobilize knowledge for a practical application: this may include technological objects, systems, and services.

**Research-to-Business Chapter (sem. 4)**
The students will have to develop and include a Research-to-Business chapter in their final work: this may include technical aspects, but especially entrepreneurships and business analysis elements learned during the Y1 workshops given by the Collège des Ingénieurs.

**3 Immersive seasonal schools,** in collaboration with Collège des Ingénieurs.
During the immersive schools, students are invited to present the progress work developed in the frame of the assigned challenge-based module. At the end of the Y1 students are invited to prepare a final report that will be evaluated by an academic and an industrial tutor. Speakers and special guests are invited during the schools with the aim of improving the students' skills.

# Practical Information

## Degree Requirement

In order to be eligible for the HySET Erasmus Mundus Joint Master, students must hold a Bachelor Degree (at least 180 credits) in one of the following disciplines (or equivalent):

Mechanical Engineering
Chemical Engineering / Chemistry
Aeronautical Engineering
Industrial Engineering
Energy Engineering
Electrical Engineering
Physics

## Fees & Scholarships

### Tuition fees

Details of tuition fees are as follows:
- European students are charged 4.500 € per year (9.000 € in total).
- Non-European students are charged 9.000 € per year (18.000 € in total).

Tuition fees only cover administrative fees and the academic costs of the programme. They do not include costs for living, housing and travel. Tuition fees should be paid in full before enrolling in studies. Note that all prospective HySET students can apply for scholarships.

### Scholarships

The scholarship is awarded for full time enrolment and will cover the entire duration of the Master programme (24 months). The scholarship is the same for EU and non-EU students.
The student scholarship for the HySET programme includes:
- A scholarship tuition waiver: this covers the costs for programme tuition plus health insurance
- A monthly living allowance amounting to 1.400 EUR for the whole duration of the programme that covers the contribution to travel and installation costs at an HySET location.