



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



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

www.hysetmaster.polito.it

About US

Core & Academia Partners



Industrial Associated Partners



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
- In this domain, of World-level importance, increase the quality and the attractiveness of the European Higher Education Area, and support the EU's external action in the higher education field, by offering full degree scholarships to the best Master students Worldwide;

Improve the level of competences and skills of Master graduates, and in particular the relevance of the Joint Masters for scientific and technological innovation, able to generate market effects for EU Companies, also through a focused involvement of the main EU Companies in the Master. To do so, the targets of our EMJM will be:

- Educate top skilled engineers that will be able to conceptualize, analyse, design, size, optimize and operate hydrogen technologies and processes, with both a technology-focused and systemic vision.
- Individuate and train new scientists who will be sufficiently open-minded and accustomed to implement an investigative approach in order to be able to pursue PhD and thus be able to solve R&D issues.
- Train highly qualified students to contribute optimally to the hydrogen field by providing them a "T-shaped" international educational profile (the vertical bar of the T representing the depth of skills and expertise, while the horizontal bar represents a more general vision of the global scenario).
- To provide to the students an international network immersed in a European learning context, generating an integrated cultural and language experience. In order to train successful professionals who would be able to meet the needs of the international job market, it is necessary to include a multi- and inter-disciplinary approach which will be found in the structure of the curriculum.
- A strict connection with the sectors of scientific research, assured by the partner Universities and the Supporting Partners and with the sectors of industrial development and production, assured by the Companies involved as Associated Partners, leading groups in the domain of hydrogen.



Organization of the master

Two years in 5 top European universities



Semester #1	Semester #2	Semester #3	Semester #4
POLITO (Torino, IT) POLIMI (Milano, IT)	POLITO (Torino, IT) POLIMI (Milano, IT)	NTNU (Trondheim, NO) TU/e (Milano, IT) UPC (Barcelona, ES)	Company or Research Lab
Parallel tracks on FUNDAMENTALS 60 ECTs 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 NTNU TU/e UPC	Master thesis / Internship (30 ECTs)

Extra curricula activities

Scientific-Technological-Economic Challenge-based module (sem. 1 and 2)

The students (by groups of 7 to 10) will have to discover solutions of an open problem and mobilize knowledge for a practical application: this may include technological objects, systems, and services.

Research-to-Business Challenge (sem. 3)

The students groups in the three Y2 Universities will have to develop and discuss a Research-to-Business idea: this may include of course technical aspects, but especially entrepreneurs and business analysis elements learned during the Y1 workshops given by the Collège des Ingénieurs technological.

3 Immersive seasonal schools

JOINT SESSIONS – 1 per month along the academic year

The joint sessions will include lectures on a main topic, selected accordingly to the speciality of the sites, with specific lectures (delivered by international scientist, industry, societal actors). The Joint Sessions will be done once per month along the academic year. The Sessions will be in presence for the Y1 students (students gathering in POLITO or POLIMI), and in remote for the Y2 students. All the students will be exposed to entrepreneurship joint session and Industrial site visit.

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

Fee & 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. It does 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. The scholarship is the same for EU and non-EU students.

Scholarships

The scholarship is awarded for full time enrolment and will cover the entire duration of the Master programme (24 months). A reduced duration of the scholarship possible if recognition of prior learning (of min. 1 year).

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 entire duration of the HySET programme that cover the contribution to travel and installation costs: this is meant to support your travel and settling at an HySET location (e.g., flight airfare and visa fees).

