



HYDROGEN SYSTEMS AND ENABLING TECHNOLOGIES

ERASMUS MUNDUS JOINT MASTER

GA 101082651



Student Agreement
(for non-scholarship student)



**Politecnico
di Torino**



**POLITECNICO
MILANO 1863**



NTNU

Norwegian University of
Science and Technology

TU/e



**UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH**

Student Agreement for Erasmus Mundus

The Consortium of the Erasmus Mundus Joint Master Programme in Hydrogen Systems and Enabling Technologies - , hereafter called "HySET", formed by the following Universities:

- the **Politecnico di Milano (PoliMi)**, established in Italy;
- the **Norwegian University of Science and Technology (NTNU)**, established in Norway;
- the **Universitat Politècnica de Catalunya (UPC)**, established in Spain
- the **University of Technology Eindhoven (TU/E)**, established in The Netherlands;
- the **Politecnico di Torino (PoliTO)**, established in Italy.

On behalf of the HySET Consortium represented and coordinated by

Prof. Massimo Santarelli

the **HySET Programme Coordinator** of the one part,

and of the other part, **the STUDENT**

Family name			
First name			
Gender			
Date of birth			
Nationality			
Passport number			
Passport expiry date			
Self-funded Student			
Partner Country		Programme Country ¹	

Preamble

The HySET Programme Coordinator is at the Politecnico di Torino, Italy, represented by Prof. Massimo Santarelli, on behalf of the HySET Consortium is responsible towards the students for the obligations arising from the agreement. The Programme Coordinator exercises the functions specified in this student agreement.

Article 1 – Objects

This student agreement shall constitute the fundamentals on which the Consortium and the students can build a positive and cooperative work for an excellent learning environment and excellent academic achievements.

The Student has declared to meet the requirements to follow the Erasmus Mundus Joint Master Programme in HySET; particularly he/she holds a bachelor's degree (or equivalent) and has the required English proficiency (as mentioned on the EMJM HySET website and on the online application tool). The Student declares that the information provided during the application and registration, on the provided online application and pre-registration tools, is authentic.

¹ Programme countries: EU Member States and Third countries associated to the Erasmus+ Programme.

They include : 27 EU countries (Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden) AND Iceland, Liechtenstein, Former Yugoslav Republic of Macedonia, Norway, Turkey and Serbia..

Partner countries: Third countries not associated to the Erasmus+ Programme. Thus, all other countries.

The Student hereby commits him/herself on his/her honour to duly attend the HySET program (“programme”) and the prescribed and/or individually stipulated lectures, seminars, projects and examinations in his/her individual mobility track at least at two of the following participating universities - in accordance with the programme of studies supported by the European Commission: Politecnico di Torino (POLITO), Politecnico di Milano (POLIMI), Universitat Politècnica de Catalunya (UPC), Norwegian University of Science and Technology (NTNU), University of Technology Eindhoven (TU/e). The standard duration of the HySET programme is two years and it runs from _____ to _____.

The enrolment universities of the Student will be

University for the 1st year of HySET (Politecnico di Torino or Politecnico di Milano):

University for the 2nd year of HySET (Universitat Politècnica de Catalunya, Norwegian University of Science and Technology, University of Technology Eindhoven):

Article 2 - Content of the HySET programme

- 1) During the first and second semesters, students will be trained in the fields of physical chemistry, thermodynamics, catalysis, materials, electrochemistry, chemical plants and initial approach to hydrogen technologies at Politecnico di Torino (POLITO) or Politecnico di Milano (POLIMI) and students will work together under the umbrella of both universities. The third semester offers different skills and specialization tracks: in H2 production through catalytic reactors technologies or Fuel cell systems engineering at Universitat Politècnica de Catalunya (UPC), in Hydrogen Safety at Norwegian University of Science and Technology (NTNU) or in Chemical Process Technology at University of Technology Eindhoven (TU/e). The fourth semester is devoted to the internship and Master thesis project, that can be prepared either in a research institution or in the private sector. *(Students who do their second year at Eindhoven University of Technology must do their internship at an assigned research group of the department of Chemical Engineering and Chemistry).*
- 2) Programme length and location: The programme comprises 2 years and 120 ECTS. The first 2 semesters constitute the common part of the programme and are spent at Politecnico di Torino or Politecnico di Milano, depending on the chosen university. The third semester, depending on the specialization track of the student, can be spent at Universitat Politècnica de Catalunya (UPC), at Norwegian University of Science and Technology (NTNU) or at University of Technology Eindhoven (TU/e). The fourth semester is dedicated to the internship and the related MSc thesis and the student remains enrolled in the same university of the Year 2, as well as in the same university of the Year 1.

Students entering Year 2 are also obliged to renovate their enrolment in the same university of Year 1.

During the internship period, the student will be under supervision of an academic mentor. During the programme, three mandatory joint sessions take place:

- Joint Fall School
- Joint Winter School
- Joint Spring School.

Activities	Location	Calendar **
Semester 1	POLITO - POLIMI	Early September to early February
<i>Welcome days</i>	POLITO- POLIMI	September/October
<i>Joint Fall School event*</i>	POLITO - POLIMI	September/October
<i>Joint Winter School</i>		January/February
Semester 2	POLITO - POLIMI	Early February to early July
<i>Joint Spring School</i>		March/April
Semester 3	UPC / NTNU / TU/e	Early September to early February
<i>Welcome days</i>	UPC / NTNU / TU/e	Late August - Early September
Semester 4	UPC / NTNU / TU/e	Early February to end of July
Internship/MSc Thesis		
<i>Thesis submission</i>		Depends on the university

Graduation ceremony	September/ October
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* The Joint Fall event is organized every year by academic partners of Year 1 according to a rotation scheme and embeds the MSc thesis defense and the graduation ceremony.

** *Precise start and end dates of teaching, exam and holiday periods will be jointly fixed in accordance with the local rules at each hosting institution and then communicated to the students before issuing this student agreement.*

Article 3 - Specialization track allocation

The Steering Committee, in cooperation with the Local Coordinators of the concerned Partner Universities, will decide on the specialization track allocation, taking into account the preferences expressed by students at the enrolment time as well as the existing capacities. If a student accepts admission to the HySET programme, this implies acceptance of this allocation process. The final decision for the semester 3 allocation will be announced in mid-February based on the ranking in the 1st semester. *(Only for students eligible in TU/e: the students eligible in TU/e need to have a Chemical Engineering background and fulfill the TU/e admissions criteria regarding GPA and language test).*

- Programme content:

It being understood that the names of the courses might slightly change, an overview of the programme content is presented in the following tables. The programme includes mandatory courses as well as elective courses. Electives courses will be selected by the students according to their desired profile skills, upon advice of the academic staff. The opening of the elected courses will be subject to a minimum number of registered students

Overview of the track on Fundamentals @Politecnico di Torino

Semester	Course Name	ECTS	Compulsory / Elective
1	Polygeneration and advanced energy systems	10	Compulsory
1	Challenge based module - part 1	3	Compulsory
1	Batteries and Fuel Cells for Energy Transition	6	Compulsory
1	Physical chemistry of dispersed systems	6	Compulsory
1	Industrial chemistry and process simulation	6	Compulsory
	Total	31	
2	Challenge based module - part 2	7	Compulsory
2	Energy economics	6	Compulsory
2	Electrical conversion from green sources of energy	6	Compulsory
2	Fundamentals of catalysis	3	Compulsory
2	Models and scenarios for energy planning	6	Compulsory
2	Hydrogen Laboratory	3	Compulsory
	Total	31	
	Grand Total	60	

Overview of the track on Fundamentals @Politecnico di Milano

Semester	Course Name	ECTS	Compulsory / Elective
1	Fundamentals of chemical processes	8	Compulsory
1	Energy Conversion A	10	Compulsory
1	Challenge based I	5	Compulsory
1	Management of energy	5	Compulsory
	Total	28	
2	Challenge based II	5	Compulsory
2	Electrochemical energy conversion and storage	8	Compulsory
2	Hydrogen technologies	3	Compulsory
2	Thermoeconomics and energy modeling	8	Compulsory
2	Chemical processes and technologies	8	Compulsory
	Total	32	
	Grand Total	60	

**YEAR 2 Semester 3 - UPC Specialization Track on
H2 production through catalytic reactors technologies and Fuel cell systems engineering**

Semester	Course name	ECTS	Compulsory / Elective
3	Renewable energy systems	6	Elective
3	Sustainable materials	6	Elective
3	Hydrogen Technologies	6	Elective
3	Risk and Safety at the Chemical Industry	6	Elective
3	Sustainability and circular economy	6	Elective
3	Chemical and catalytic reaction engineering	6	Compulsory
3	Advanced catalytic reactors	6	Compulsory
3	Low-temperature fuel cell systems engineering	6	Compulsory
3	High-temperature Solid Oxide Cells	6	Compulsory
	Total	30	
4	Internship and Master Thesis	30	
	Total	30	
	Gran Total	30	

YEAR 2 Semester 3 – NTNU Specialization Track on Hydrogen Safety

Semester	Course name	ECTS	Compulsory / Elective
3	Safety and reliability analysis	7.5	Compulsory
3	Risk management in project	7.5	Elective
3	RAMS engineering and data analytics	7.5	Compulsory
3	Maintenance management	7.5	Elective
3	Risk Analysis and Safety Management of Marine Systems	7.5	Elective
4	Risk Analysis	7.5	Elective (ad-hoc agreement)
4	Hydrogen Energy Systems and Safety	7.5	Elective (ad-hoc agreement)
	Total	30	
4	Internship and Master Thesis	30	
	Total	30	
	Gran Total	30	

YEAR 2 Semester 3 – TU/e Specialization Track on Chemical Process Technology

Semester	Course name	ECTS	Compulsory / Elective
3	Preparation for graduation project Hyset	15	Compulsory
3	Advanced Transport Phenomena	5	Elective
3	Catalysis: Science and Technology	5	Elective
3	Advanced Separation Technology	5	Elective
3	Electrochemical Engineering	5	Elective
3	Modern Concepts in Catalysis	5	Elective
3	Polymer Membranes for Sustainable Process Applications	5	Elective
3	Advanced Process Design	5	Elective
3	Multiphase Computational Fluid Dynamics	5	Elective
3	Coating Science and Technology	5	Elective
3	Micro Flow Chemistry and Process Technology	5	Elective
3	Particle-based Simulations	5	Elective
3	Physical Organic Chemistry	5	Elective
3	Characterization of Materials	5	Elective
3	Molecular Photo physics	5	Elective
3	Theoretical and Computational Chemistry	5	Elective
3	Polymer and Colloid Science	5	Elective
3	Molecular Photo Chemistry	5	Elective

3	Essentials of Polymer Reaction Engineering	5	Elective
3	Sustainable Polymer Chemistry and Materials	5	Elective
3	Advances in Molecular Chemistry	5	Elective
3	Experimental Soft Matter	5	Elective
3	Advanced Materials for Soft Robotics	5	Elective
3	Mechanical Behavior and Rheology	5	Elective
3	Advanced chemical reactor engineering	5	Elective
3	Multiphase reactor modeling	5	Elective
3	Capita selecta	5	Elective
	Total	30	
4	Internship and Master Thesis	30	
	Total	30	
	Gran Total	30	

Article 4 - Attendance, evaluation, diploma

1. **Attendance:** The Student hereby commits him/herself on his or her honour to duly attend the academic programme and the prescribed lectures and examinations of the EMJM HySET.
2. **Exam and thesis:**
 - Local rules and regulations of the partner institutions at which the student is enrolled apply to modules that are followed, type of examination (written / oral examinations, oral defenses, project work, organization of a debate...), grading of modules, resits, consultation of graded work etc. The language of all the courses of the HySET Programme and the examination language is English for all the students. Exam results obtained at any partner university are fully recognized by all the universities in the consortium.
 - Enrolment in the second year will be only possible if the Student has obtained at least 50 ECTS by the end of September. In the case where the Student has obtained at least 50 ECTS and less than 60 ECTS at the end of the first year, remedial exams will be organised in January/February during the 3rd semester. If the Student has obtained less than 50 ECTS at the end of the first year, the payment of the scholarship will be interrupted and the Student will be invited to continue the Program as a self-paying student. The student will have to enroll again, bearing all the re-registration costs of YEAR 1 to be able to take all the missing exams.
 - The internship/master thesis is an integral part of the second year. The program and examination regulations of the second-year university are applicable for the internship/master thesis.

Grade harmonisation: Local exam results are transferred within the consortium (during the specialisation semester from the hosting university to the POLITO/POLIMI and from POLITO/POLIMI to the 2nd year University) using the ECTS Grading Table. The figure below is the graphical representation of these grading tables inspired from the European Grade Conversion System. As an example, a grade of 9.4/10 given at UPC is equivalent to 29/30 at POLITO.

GRADING TABLE															
Partner	Grades														
POLITO	Former ECTS	E	E	E	D	D	D	D	D	C	C	B	B	A	A
	Grade	18	19	20	21	22	23	24	25	26	27	28	29	30	30L
	Cumulative	100.00	97.83	96.07	93.01	89.64	85.21	79.94	73.59	65.97	56.46	45.24	33.03	21.88	9.01
	Percentage	2.19	1.76	3.06	3.37	4.43	5.27	6.35	7.62	9.51	11.22	12.21	11.15	12.87	9.01
POLIMI	Grade	18	19	20	21	22	23	24	25	26	27	28	29	30	30L
	Percentage	3.68	2.63	3.71	3.95	4.88	5.9	8.17	8.86	10.24	12.62	12.59	7.6	10.84	4.06
UPC	Grade	5.5	6.0	6.4	6.5	6.7	7.0	7.3	7.4	7.5	8.4	8.5	9.4	9.5	10
NTNU	Grade	F	E	D			C				B			A	
TU/e	Former ECTS	E			D				C			B		A	
	Grade		≥ 5.5				6			7		8		9	10
	Cumulative		100.0				100.0			83.0		53.6		20.0	0.7
	Percentage		0				17.0			29.4		33.6		19.3	0.7

3. Diplomas:

Depending on the specialization track followed during the HySET programme, the student can obtain the following degrees:

- From POLITO, Laurea Magistrale in Ingegneria Energetica e Nucleare (Master of Science in Energy and Nuclear Engineering) and, depending on the institution delivering the specialisation semester, one of these degrees:
 - o From NTNU, Master in Hydrogen Systems and Enabling Technologies
 - o From UPC, Erasmus Mundus master's degree in Hydrogen Systems and Enabling Technologies (HySET)
 - o From TU/e, Masteropleiding Chemical Engineering (Master of science program in Chemical Engineering)
- From POLIMI, Laurea Magistrale in Energy Engineering (Master of Science in Energy Engineering) and, depending of the institution delivering the specialisation semester, one of these degrees:
 - o From NTNU, Master in *Hydrogen Systems and Enabling Technologies*
 - o From UPC, Erasmus Mundus master's degree in Hydrogen Systems and Enabling Technologies (HySET)
 - o From TU/e, Masteropleiding Chemical Engineering (Master of science program in Chemical Engineering).

Article 5 - Consortium's services for students' support

The Consortium and its partners provide the students with thesis supervision, all necessary learning support facilities and any other service associated with the Programme with reasonable care and skill.

The Consortium provides the students with all the information and material about the structures of the hosting universities, the academic program and the extra-curricular offerings. The international offices offer support related to Visa application, accommodation, registration to the local authorities (foreigner's officer), opening a bank account, access to internet and intranet of the universities. Partners commit themselves to provide local language training for the students as well as an initiation to the local and national culture. More details about the offering at each hosting university are given on the HySET website and intranet.

All partner universities organize welcome day(s) for the HySET students at the start of each academic year. Throughout the semester, students are given the opportunity to integrate with the local student community thanks to science fairs, networks and festive events.

All students have access to study materials through a web platform. Moreover, Partners give access to both physical and electronic library services and other student amenities.

With relation to assessment and reporting, the institutions where the students are enrolled have the primary and ultimate responsibility to exchange the student's transcript of records (ToR). The grading rules are detailed below.

Every HySET Partner is responsible to ensure that the personal data of Students that will be subject to Data Processing are accurate and up-to-date and will be well-protected, as established in the European General Data Protection Regulation 2016/679 of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data. In the event a Party shares the personal data with or outsources (a part of) the processing activities to a third Party, it will ensure that the personal data is processed in a proper and careful manner and in accordance with the applicable legislation and regulations relating to the processing of personal data.

Student data may be used by the European Commission for the purpose of evaluating the Programme, efficiently managing the EMJM projects, and producing statistics. Data could be made available to the EACEA, the European Commission, the European External Action Service staff, as well as to other stakeholders of the Erasmus+ Programme, such as Erasmus+ National Agencies, National Erasmus+ Offices and the Erasmus Mundus Student and Alumni Association (EMA)¹.

Regardless of the University of the consortium they attend, students shall benefit from the same advantages as a full-time student in the host university, including the procurement of a student card, valid for the duration of their stay.

Article 6 - Students' obligations

The Student shall follow the rules for **attendance and discipline** in place in each of the EMJM HySET institutions that he/she may attend, following his/her study track. Each EMJM HySET institution shall direct the Student to the relevant rules i.e. from the institutional websites.

The Student is obliged to obtain his/her residence permit from the national and local authorities upon his/her arrival in the host countries if required.

The Student has to commit him/herself to not participate in other European Community programs.

In order to obtain the degree from Politecnico di Milano, students enrolled in the Semester 1 and 2 must validate an Italian Language course or provide equivalent Italian certificate. If the student already has a certificate of Italian language level B1, the latter needs to be uploaded upon enrolment. Otherwise, the Politecnico di Milano offers the opportunity to attend a free course of Italian and to take an exit test. The exit test is valid if it shows that the student kept or improved the entrance level. It is not required to reach the B1 level.

The Beneficiary commits him/herself to respect the rules and regulations of the Host Institution and to follow rules and laws of the host country and not to act in any way against the local public interest, health and security during his/her studies. He/she will commit no fraudulent acts, and will especially avoid cheating, falsification or plagiarism of any academic work. Moreover, he/she will not abuse or misuse access to equipment and installations and will not perform any unauthorized access or violation of departmental, school or institution rules. Any incident against this compromise will be treated under the local regulation that applies in the University the student attends. This may cause exclusion from HySET Programme.

The Student is obligated to participate in HySET programme surveys and evaluations as well as cooperate with Erasmus+ EMJM surveys from the European Union Education, Audiovisual and Culture Executive Agency (EACEA). The Student will be encouraged to become a member of the Erasmus Mundus Students and Alumni Association (EMA) upon their graduation from HySET.

¹ http://eacea.ec.europa.eu/erasmus_mundus/funding/documents/Privacy_statement_EMT.pdf

With relation to assessment and reporting, by signing this agreement, the student agrees to allow the universities where the student has enrolled to exchange the data included in the transcript of records.

Exclusion:

The Student understands that he/she may be excluded from the EMJM HySET programme for several serious motivations (including unjustified repeated non-attendance to programme activities). Exclusion procedure is subject to the local rules of the institution in which the Student is currently studying and where he/she will apply (in particular the appeal procedure, if existing).

Article 7 - Participating costs to the Programme EMJM

In order to participate in the 2 years of the HySET Programme, the student will have to pay tuition fees covering the 24 months of the EMJM HySET.

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).

Payment options:

Option 1: Instalment payment

		Payment deadline	Amount to pay €	
			EU	Extra-EU
Pre-registration fee	Year 1	July 2026	500€	
First payment		By mid December 2026	2000€	4250€
Second payment		Beginning of April 2027	2000€	4250€
Third payment	Year 2	July 2027	500€	
Fourth payment		By mid December 2027	2000€	4250€
Final payment		Beginning of April 2028	2000€	4250€

Tuition fees only cover administrative fees and the academic costs of the programme. It does not include costs for living, housing and travel to the first-year university and second year university, VISA and residence permit-related expenses, and DOV or CIMEA certificates.

All the payments will be managed by the coordinating institution.

For information, the Student must register at the Year 1 institutions, Politecnico di Torino or Politecnico di Milano, during the 2 years of the programme and at the hosting university for the Year 2.

The payment of the fees does not create or entitle an employer- employee relation between HySET Consortium and the Student.

Article 8 - Suspension and Interruption

The Coordinating Institution shall be entitled to suspend the Student’s participation in the programme under the following circumstances:

- Failure to regularly attend classes.
- Insufficient proficiency.
- The subjects taken by the STUDENT do not match the HySET study plan.
- In case of serious disciplinary offenses.

In the event, that the STUDENT has to temporarily leave the HySET Programme due to well documented reasons, such as serious medical issues and/or serious family reasons, the student’s participation in the Programme shall remain unaffected.

Article 11 - Termination of the Agreement

In the event that the circumstances stipulated in article 8 continue over a prolonged period of time, the Coordinating Institution shall consider this agreement to be terminated.

The student shall be entitled to voluntarily terminate the agreement at any time. To do so, he/she shall have to notify the Coordinating Institution in writing as soon as possible of any events or circumstances likely to affect the Student Agreement.

The regular duration of the agreement shall terminate at the end of the two academic years (after 24 months).

The effectiveness of this Agreement is subject to the full and timely payment of the Tuition Fee as set forth in Article 7.

Both Parties have the right to terminate this Agreement for good cause in exceptional cases without notice.

Article 9 - Modification of the Contract and dispute resolution conditions

Any alteration to the present Agreement must be communicated in writing. All alterations to the initial situation must be immediately communicated by the Student to HySET Consortium. Upon mutual agreement of contractual modifications, HySET Consortium will agree an addendum to the present agreement.

In case of complaint on a specific service or facility provided by a hosting institution, the Student shall invoke the complaints procedure of that institution. The Student may appeal to HySET body.

The Student agrees with the terms of this contract by signing in 2 hard copies.

Student	HySET
Name	Programme Coordinator
Signed in	Signed in
on the	on the
Signature	Signature