

## The Rector



HAVING REGARD TO the Statute of Politecnico di Milano;  
HAVING REGARD TO Italian Ministerial Decree No 509 of 3.11.1999;  
HAVING REGARD TO Italian Ministerial Decree No 270 of 22.10.2004;  
HAVING REGARD to Legislative Decree 81/2015;  
HAVING REGARD TO the University Educational Regulations in effect;  
HAVING REGARD TO the Regulations for Specializing Masters of Politecnico di Milano issued by Rectoral Decree No. 0227162 of 04.10.2022;  
HAVING REGARD TO the Agreement for the activation of the 2nd Level University Master's Course in 'Energy Innovation' signed between Politecnico di Milano and Eni Corporate University on 05.10.2021 - Registration 9238 of 05.10.2021  
HAVING ACKNOWLEDGED the favourable opinion of the Academic Senate in its meeting of 23.10.2023, concerning the establishment and activation of Specializing Master proposals, including the 2nd Level Specializing Master 'ENERGY INNOVATION'.

### HEREBY DECREES THAT

The Second Level Specializing Master 'ENERGY INNOVATION' shall be established and activated for the year 2024-2025.

### ART. 1

#### Characteristics of the Specializing Master

The Department of Energy has established and activated the 2nd Level Specializing Master in 'ENERGY INNOVATION'.

The administrative seat of the University Specializing Master is at the Department of Energy. The School of reference is the School of Industrial and Information Engineering.

The Director of the University Specializing Master is Professor Alfonso Niro, the Vice Director is Professor Giovanni Lozza.

The Master's Scientific Committee is composed of:

- Prof GIOVANNI GUSTAVO LOZZA - POLITECNICO DI MILANO
- Prof ALFONSO NIRO - POLITECNICO DI MILANO
- Prof EMANUELA COLOMBO - POLITECNICO DI MILANO
- Prof LUIGI PIETRO MARIA COLOMBO - POLITECNICO DI MILANO
- Prof ALESSANDRA BERETTA - POLITECNICO DI MILANO
- Prof GIAMPAOLO MANZOLINI - POLITECNICO DI MILANO
- Prof FRANCESCO GRIMACCIA - POLITECNICO DI MILANO
- Dr CRISTINA FLEGO - ENI SPA
- Engineer KATIA DEMETRI - ENI CORPORATE UNIVERSITY SPA
- Dr ROBERTO CIMINO - ENI CORPORATE UNIVERSITY SPA
- Dr GENNARO CANGIANO - ENI CORPORATE UNIVERSITY SPA
- Dr CHIARA SARNATARO - ENI CORPORATE UNIVERSITY SPA

## ART. 2

### Mission, goals and employment opportunities

The world of energy is changing rapidly, and the demands of environmental compatibility impose a broader need for transversal and multidisciplinary knowledge, to be added to the skills model relating to the more traditional disciplines typical of the energy sector. Issues related to environmental protection, energy saving and mitigation of the greenhouse effect thus become crucial for the Energy sector. In addition, new areas of expertise are opening up, ranging from green chemistry, biomass and bio-refinery to digitalisation, big-data and automation, as well as new materials and storage issues, which are crucial in the renewable energy sector. New ways of producing and managing energy and new business models are opening up for the energy sector, which must be continuously integrated and updated: the sector's capacity for technological innovation will be a distinctive and fundamental lever to create a resilient and flexible Energy Company capable of entering new contexts and developing new businesses. The Specializing Master aims to train professionals who know how to operate in the field of technological innovation in the energy field, capable of meeting the challenges described above.

The main objectives of the Specializing Master are as follows:

- To develop high-level technicians with a broad and transversal vision on the business areas of the Energy sector, who know how to operate in the field of technological innovation.
- Developing soft skills and integrating them with purely technical-scientific skills.
- Strengthen the areas of expertise currently less present in the more traditional R&D profiles and other technical areas.

In the light of these objectives, Eni sponsors and shares the management of the Specializing Master.

**The Specializing Master will be delivered in English.**

## ART. 3

### Teaching content and organisation

The Specializing Masters will start in **April 2024** and will end in **April 2025**.

The Specializing Masters aims to train professionals who know how to operate in the field of technological innovation in the energy field, with an in-depth knowledge of the specific topics and issues of the energy and environmental sector, as well as data processing and innovative materials. The propensity and ability to work in diverse cultural and social contexts is also considered essential, and the Specializing Master requires participants to further develop their personal skills, including soft skills.

The Specializing Master provides 60 ECTS and is organised as follows:

<b>Module 1 - Scenario, Regulations and Project Management</b>			
<b>Course</b>	<b>Scientific Disciplinary Sector (SSD)</b>	<b>Total hours of activity</b>	<b>ECTS</b>
Energy scenarios, sustainability and climate change	ING-IND/10	37	1.5
Energy economics and regulation	ING-IND/35	25	1
Innovation and Project Management	ING-IND/35	37	1.5
<b>Module 2 - Soft skills</b>			
<b>Course</b>	<b>Scientific Disciplinary Sector (SSD)</b>	<b>Total hours of activity</b>	<b>ECTS</b>
Problem solving and decision making	ING-IND/35	25	1
Communication skills	M-PED/03	25	1

<b>Module 3 - Fundamentals and experimental tools</b>			
<b>Course</b>	<b>Scientific Disciplinary Sector (SSD)</b>	<b>Total hours of activity</b>	<b>ECTS</b>
Fundamentals of Applied Thermodynamics and Heat Transfer	ING-IND/10	50	2
Fundamentals of Power Plants	ING-IND/09	25	1
Experimental tools	ING-IND/10	25	1
<b>Module 4 - Oil &amp; Gas Technologies</b>			
<b>Course</b>	<b>Scientific Disciplinary Sector (SSD)</b>	<b>Total hours of activity</b>	<b>ECTS</b>
Overview, Exploration, Reservoir/Drilling, Facilities and Development, Production and maintenance	ING-IND/30	100	4
Natural gas technologies, LNG, Gas Advocacy	ING-IND/25	25	1
Refinery processes & green refinery, Innovative products, Petrochemical processes & Polymer science, Green Chemistry	ING-IND/27	87	3.5
<b>Module 5 - Soft skills 2</b>			
<b>Course</b>	<b>Scientific Disciplinary Sector (SSD)</b>	<b>Total hours of activity</b>	<b>ECTS</b>
Team working and diversity	ING-IND/35	25	1
Ethics in Innovation	M-FIL/02	25	1
Creativity and Innovation	M-FIL/02	13	0.5
<b>Module 6 - Renewables and Innovative energy systems</b>			
<b>Course</b>	<b>Scientific Disciplinary Sector (SSD)</b>	<b>Total hours of activity</b>	<b>ECTS</b>
Potential and perspectives of RES	ING-IND/09	13	0.5
Electric grids with large penetration of RES	ING-IND/33	13	0.5
Solar: thermal, CSP, PV frontier technologies	ING-IND/09	50	2
Wind, Geothermal, Hydro, Biomass	ING-IND/09	25	1
Energy Storage	ING-IND/10	37	1.5
Fuel cells, Hydrogen, Hybrid systems	ING-IND/09	37	1.5
Nuclear Energy and nuclear fusion	ING-IND/19	37	1.5
Carbon Capture Utilization and storage	ING-IND/09	37	1.5
<b>Module 7 - Approach to emerging technologies</b>			
<b>Course</b>	<b>Scientific Disciplinary Sector (SSD)</b>	<b>Total hours of activity</b>	<b>ECTS</b>
Overview: RD technology scenario	ING-IND/10	13	0.5
Intellectual property	ING-IND/10	13	0.5
Metrics of emerging energy technologies	ING-IND/10	25	1
Circular economy and bioeconomy	ING-IND/35	13	0.5
Energy and ecological transition	ING-IND/10	13	0.5
Big data	ING-IND/31	25	1

Innovative technologies for HSE and bioremediation	ING-IND/25	25	1
<b>Final papers</b>			
<b>Course</b>	<b>Scientific Disciplinary Sector (SSD)</b>	<b>Total hours of activity</b>	<b>ECTS</b>
Internship	Not defined	400	16
Preparation, discussion and defence of the final paper	Not defined	200	8

#### ART. 4 Admission requirements

The Specializing Master is exclusively addressed to candidates who meet the following requirements:

– **Laurea Magistrale/Specialistica (equivalent Master of Science) in:**

- *Physics - LM 17*
- *Aerospace and Astronautical Engineering - LM 20*
- *Chemical Engineering - LM 22*
- *Automation Engineering - LM 25*
- *Electrical Engineering - LM28*
- *Energy and Nuclear Engineering - LM 30*
- *Mechanical Engineering - LM 33*
- *Environmental and Land Planning Engineering - LM 35*
- *Mathematical-Physical Modelling for Engineering - LM 44*
- *Science and Materials Engineering - LM 53*
- *Chemical Sciences - LM 54*
- *Industrial Chemistry Science and Technology - LM 71*

achieved by **22 January 2024**.

For international applicants, qualifications equivalent to the ones listed above, obtained in their respective education systems, will be considered valid. For admission, a copy of the foreign degree certificate must be submitted by the deadline indicated in Article 5.

- **Degree score no lower than or equal to 100/110**
- **Age** not exceeding 27 years and 364 days as of 31/12/2023.
- **Excellent level of English**, to be verified by Eni in accordance with its selection standards.

Among international candidates, those with a good knowledge of written and spoken Italian, possibly attested by relevant certificates, will be preferred. The level of knowledge will be assessed during the selection process.

The maximum number of students admitted is 25.

The selection of students shall take place in accordance as follows:

#### PHASE 1: PRE - SELECTION BY POLITECNICO DI MILANO

After receiving the applications for admission, the Department of Energy shall assess the eligibility of each candidate with reference to the above-mentioned requirements and shall forward Eni Corporate University S.p.A. a list of eligible candidates only. Eligible candidates will be invited to register online on the Eni website <https://enirecruit.taleo.net/careersection/ext/jobsearch.ftl?lang=it> by specifying the code MSTMI2024

#### PHASE 2: SELECTION BY AND UNDER THE RESPONSIBILITY OF ENI AND ITS COMPANIES

Upon receipt of the list referred to in Phase 1 - Pre-Selection, Eni Corporate University S.p.A. Shall identify the candidates to be admitted to Phase 2 - Selection from among the eligible candidates registered on the above-mentioned website (all the data requested in the 'Admission Requirements' section must be entered: degree score, degree programme, date of birth and knowledge of English language). Eni shall contact the aforementioned candidates, who will be assessed and selected through involvement in different selection activities (linguistic, aptitude and technical tests), aimed at assessing their level of knowledge of the English language, their aptitude, motivational and technical characteristics with respect to the sector of activity of the Specializing Master.

The selection shall be carried out by Eni and its affiliated companies, which shall conduct this process in line with their own internal procedures and policies (<https://eni.com/it-IT/cARRIERE/master-energy-innovation.html>). The selection tests will be administered online and/or at the premises of Eni and its affiliated companies in February 2024. Information and instructions concerning the selections will be communicated to candidates by e-mail in advance of the selections.

At the end of Phase 2, Eni shall communicate the results of the selection individually to the candidates involved. Those who successfully pass the selection will be enrolled in the Specializing Master and will receive a monthly participation fee from Eni for the entire duration of the Specializing Master.

## **ART. 5 Formal obligations**

The application for admission can be submitted from the day subsequent to the date of this Call and **by 22 January 2024**.

Only applications from those who have correctly followed the instructions set out in this Rectoral Decree will be taken into consideration.

Failure to submit even one of the documents, within the time limits and in the manner provided for by this Rectoral Decree, shall automatically exclude the candidate from the selection process.

To apply for the selection process, interested parties are required send their applications to Politecnico di Milano - Dipartimento di Energia (Department of Energy) [www.masterenergyinnovation.polimi.it](http://www.masterenergyinnovation.polimi.it)

The documents required for **admission e enrolment** are as follows:

### **\* Italian/foreign citizens with a qualification obtained in Italy**

- a copy of an identity document
- a copy of the Diploma Supplement or a photocopy of degree certificate or self-certification drafted using the form provided by the managing body

### **\* Italian/EU citizens with a qualification obtained abroad**

- a copy of an identity document
- copy of degree diploma in original language and translation
- a copy of the transcripts in the original language and translation or Diploma Supplement in English  
**(upon enrolment the following must be handed in:**
  - **the Declaration of Value in Italy issued by the relevant Italian Representation abroad or**
  - **the Diploma Supplement with signature or digital mark or, in the absence of signature or digital mark, the Diploma Supplement with Apostille or**
  - **the certificate issued by ENIC/NARIC Centres or**
  - **the certificate issued by World Education Services - WES).**

In accordance with Art. 75 of Presidential Decree No. 445/2000, should the Administration find that the content of declarations made by the applicant are false on the basis of the relevant checks carried out, the applicant will surrender any benefits that may have been granted on the basis of such false declarations.

### **\* Non-EU citizens with qualifications obtained abroad**

- **a copy of the qualification** obtained in the original language and a corresponding translation in Italian/English/French or Spanish
- **a copy of the transcripts** listing the exams taken in the original language and a corresponding translation in Italian/English/French or Spanish or the **Diploma Supplement (upon enrolment the following must be handed in:**
  - **the Declaration of Value in Italy issued by the relevant Italian Representation abroad or**
  - **the certificate issued by ENIC/NARIC Centres or**
  - **the certificate issued by World Education Services - WES).**

- **a copy of a valid passport**

At least 30 days before the closing date of the registration period as indicated in this article.

The Department of Energy of Politecnico di Milano shall transmit all the documents listed above for the evaluation of qualifications, for the purposes of enrolling in the Specializing Masters, to the Masters and Continued Education Service at the Politecnico di Milano by the closing date of this Call, pursuant to the provisions of the Ministry of Education, Universities and Research (MIUR)/Ministry of Foreign Affairs (MAE) note “Procedures for the entry, residence and enrolment of international students and related recognition of qualifications, for higher educational programmes in Italy for the academic year 2023-2024”.

**Following acceptance by the University, and only after having confirmed his/her attendance to the Managing Body for the Specializing Master in the manner prescribed by such Managing Body, the student must register on the ministry portal <https://www.universitaly.it>, confirming his/her registration with the Managing Body, in order that the application can be forwarded to the Office responsible for issuing entry visas.**

#### **ENROLMENT PROCESS:**

Students accepted onto the Specializing Master must create login credentials for Politecnico di Milano's Online Services on the [www.polimi.it](http://www.polimi.it) website, enter their details and create a **person code**, attaching a valid identity document (a passport in the case of non-EU citizens), and communicate their person code to the Managing Body for the Specializing Master. Students who are already registered must update their personal details if they are not up-to-date.

**The website login credentials must be kept safe as they will be needed in order to access all Politecnico di Milano services.** If the credentials are lost, they can be recovered autonomously or by means of an OTRS ticket.

Politecnico will create a provisional student identification number with which the student can pay the enrolment fee through online services.

**Non-EU citizens**, in addition to the documentation above, must upload **a copy of a valid entry visa and residence permit** to their online services register.

In order to be enrolled, regardless of the Specializing Master delivery mode (face-to-face, online/distance), **non-EU citizens must upload a copy of their valid passport to their online services registry.**

### **ART. 6 Qualifications and awards**

#### **CERTIFICATION AWARDED**

Students admitted to the final Specializing Master exam must pay the stamp duty through Politecnico di Milano's online services in order to sit the exam.

Upon completion of the Specializing Master and after passing the final examination, the Second Level Specializing Master in ‘Energy Innovation’ will be awarded, in English.

#### **STUDENTS’ OBLIGATIONS**

Attendance of at least 80% for the activities foreseen by the Specializing Master’s programme is compulsory. The classes will take place at Politecnico di Milano as far as this is allowed by the pandemic situation. Withdrawal from the programme must be expressed in writing. The training period cannot be suspended for any reason.

#### **EXAMINATION PROCESS**

It consists of intermediate tests and a final examination. The final examination will consist of an oral test with a dissertation on a project/thesis carried out during the internship.

## **ART. 7**

### **Fees**

The costs for participating in the Specializing Master shall be entirely borne by Eni for all candidates admitted to the Specializing Master, including the enrolment fee at Politecnico di Milano (€ 500.00 per student).

## **ART. 8**

### **Processing of personal data**

The University, in accordance with EU Regulation No 2016/679 concerning the protection of personal data, uses the processing of personal data solely for purposes related to admission, enrolment and management of the masters programme and in any case consents to the disclosure of personal information to third parties and in particular:

- to public and private bodies interested in possible recruitment;
- to training course providers; to Politecnico's Treasury Bank for services relating to tuition fees;
- to bodies managing loans on trust, accommodation, flexible work contracts and cultural, recreational and/or sporting activities.
- Use of the data for statistical purposes, in accordance with the procedures and authorisations provided for in the aforementioned legislation, is also authorised.

The complete notice on data processing and the rights of the data subject is available at [www.polimi.it/privacy](http://www.polimi.it/privacy)

## **ART. 9**

### **Publication**

This Decree shall be made public on Politecnico di Milano's website at the following address <https://www.polimi.it/en/programmes/specializing-masters-and-postgraduate-programmes/>

### **FOR INFORMATION ON THE SPECIALIZING MASTER:**

#### **Continuing Education Service**

Politecnico di Milano - Dipartimento di Energia

Via Lambruschini 4

20156 Milano (MI)

Tel: +39 02-2399. 3855

Email: [master-energyinnovation@polimi.it](mailto:master-energyinnovation@polimi.it)

<http://www.masterenergyinnovation.polimi.it/>

The Rector  
(Prof Donatella Sciuto)  
*Signed by Donatella Sciuto*

*Document signed digitally, in accordance with current legislation.*