The Rector

POLITECNICO
MILANO 1863

Decree Index no. 9453 File no. 176086
Date 20/10/2021
Title III Class V
UOR SEMFC

HAVING REGARD TO Politecnico di Milano's Articles of Association;
HAVING REGARD TO Ministerial Decree 3.11.1999, no. 509;
HAVING REGARD TO Ministerial Decree 22.10.2004, no. 270;
HAVING REGARD TO Legislative Decree 81/2015;
HAVING REGARD TO the University's Educational Rules - Regulations;
HAVING REGARD TO the Regulation of Specializing Masters of Politecnico di Milano issued with Rector's Decree no. 2235 of 05.08.2013;
HAVING REGARD TO the Agreement for activating the second level university Specializing Master's in "Energy Innovation" signed between Politecnico di Milano and Eni Corporate University on 05/10/2021 – Index no. 9238 of 05/10/2021;
HAVING ACQUIRED the favourable opinion of the Academic Senate during the 20.09.2021 meeting on the establishment and activation of proposals for Specializing Masters, including the "ENERGY INNOVATION" second level Specializing Master.

DECREES

The "ENERGY INNOVATION" second level Specializing Master is established and activated for 2022/2023.

ART. 1
Master's administrative features

The "ENERGY INNOVATION" second level Specializing Master is established and activated at the Energy Department.

The Specializing Master's administrative office is located at the Energy Department. The reference school is the School of Industrial and Information Engineering.

The Specializing Master's Coordinator is Professor Alfonso Niro, and the Vice Coordinator is Professor Giovanni Lozza.
The Specializing Master's Examination Board is made up of professors of Politecnico di Milano: Alfonso Niro, Giovanni Lozza, Emanuela Colombo, Alessandra Beretta, Luigi Colombo, Giampaolo Manzolini, Francesco Grimaccia, Manfredo Guilizzoni, Andrea Casalegno; Drs. Roberto Cimino, Cristina Flego, Lorenzo Di Berardo, Federico Rulfi of Eni S.p.A. and Dr. Massimo Culcasi, Eng. Katia Demetri and Dr. Chiara Sarnataro from Eni Corporate University S.p.A.

ART. 2
Educational objective and employment opportunities

The energy world is changing rapidly, and environmental compatibility imposes a greater need for transversal and multidisciplinary knowledge to be added to the traditional model of skills based on in-depth vertical studies in the Oil & Gas sector (drilling, reservoirs, exploration, etc.). Issues related to environmental protection, energy-saving and mitigation of the greenhouse effect are crucial for the Energy sector. New areas of expertise are opening. These include green chemistry, biomass, bio-refinery, digitalisation, big data and automation, new materials and storage issues, which are crucial in the renewable energy sector. New methods of producing and managing energy and new business models are opening for the energy sector, which must be continually integrated and updated. The sector's capacity for technological innovation will be the distinctive and

fundamental lever to create a resilient and flexible Energy Company, capable of entering new frameworks and developing new businesses. The Master's trains professionals who know how to operate in the energy technological innovation field, and can face the challenges described above.
The main objectives of this Master's are:

- Developing high-level technicians with a broad and transversal vision on the Energy sector business areas, who can operate in the technological innovation field.
- Developing transversal (soft) skills and integrating them with purely technical-scientific skills.
- Strengthen areas of expertise currently less present in the more traditional R&D profiles and other technical areas, such as Digital Transformation and Automation, Additive Manufacturing, etc.

Eni sponsors and shares the management of the Master's.

The Programme will be delivered in English.

ART. 3
Teaching content and organisation

The Specializing Master's will start in March 2022 and end in March 2023**.**

The Programme trains professionals to work in the energy technological innovation field, with a thorough knowledge of the energy and environment sector, data processing and innovative materials. It is essential to have the propensity and ability to work in diversified cultural and social frameworks, putting in place the personal skills that the Master's aims to develop through the in-depth study of soft skills.

The teaching plan will be structured as follows:

	Topics	ECTS	SSD
1	**Scenario, Regulations and Project Management**		
	Energy scenarios, sustainability and climate change	1.5	ING-IND/10
	Energy economics and regulations	1	ING-IND/35
	Innovation and project management	1.5	ING-IND/35
		4	
2	**Soft Skills 1**		
	Problem solving and decision making	1	ING-IND/35
	Communication skills	1	M-PED/03
		2	
3	**Fundamentals and experimental tools**		
	Fundamentals of Applied Thermodynamics and Heat Transfer	2	ING-IND/10
	Fundamentals of Power Plants	1	ING-IND/09
	Experimental tools	1	ING-IND/10
		4	
4	**Oil & Gas Technologies**		
	Overview	0.5	ING-IND/30
	Exploration	1	ING-IND/30
	Reservoir / Drilling & Completion	1	ING-IND/30
	Facilities & Development	0.5	ING-IND/30
	Production & Maintenance / Logistics	1	ING-IND/30
	Natural gas technologies (treatment and transportation)	0.5	ING-IND/25
	LNG, Gas Advocacy	0.5	ING-IND/25
	Refinery processes	1	ING-IND/27
	Innovative Products (fuels / lubricants)	0.5	ING-IND/27
	Biofuels & green refinery	0.5	ING-IND/27
	Petrochemical processes & Polymer Science	1	ING-IND/27
	Green Chemistry	0.5	ING-IND/27
		8.5	
5	**Soft Skills 2**		

	Team working and diversity	1	ING-IND/35
	Ethycs in innovation	1	M-FIL/02
	Creativity and Innovation	0.5	M-FIL/02
		2.5	
6	**Renewables and innovative energy systems**		
	Potential and perspectives of RES	0.5	ING-IND/09
	Electric grids with large penetration of RES	0.5	ING-IND/33
	Solar: thermal, CSP, PV, frontier technologies	2	ING-IND/09
	Wind, Geothermal, Hydro, Biomass	1	ING-IND/09
	Energy Storage	1.5	ING-IND/10
	Fuel cells, Hydrogen, Hybrid systems	1.5	ING-IND/09
	Nuclear Energy and Nuclear Fusion	1.5	ING-IND/19
	Carbon Capture Utilization and Storage	1.5	ING-IND/09
		10	
7	**Approach to Emerging Technologies**		
	Overview (R&D technology scenario)	0.5	ING-IND/10
	Intellectual property	0.5	ING-IND/10
	Metrics of emerging energy technologies (LCA, TRL, etc.)	1	ING-IND/10
	Circular economy and bioeconomy	0.5	ING-IND/35
	Energy and ecological transition	0.5	ING-IND/10
	Big data and Artificial intelligence in finance	1	ING-IND/31
	Innovative technologies for HSE & Bioremediation	1	ING-IND/25
		5	
	Internship	***16***	
	Preparation and dissertation of the final Thesis	***8***	
	Total	**60**	

ART. 4
Admission requirements

The Specializing Master's is reserved for applicants having a

- **Laurea Magistrale/Specialistica (equivalent to a Master of Science) in:**
  - *Physics - LM 17*
  - *Aerospace and astronautical engineering - LM 20*
  - *Chemical engineering - LM 22*
  - *Automation engineering - LM 25*
  - *Energy and nuclear engineering - LM 30*
  - *Mechanical Engineering - LM 33*
  - *Environmental and Land Planning Engineering - LM 35*
  - *Mathematical / physics modelling for Engineering - LM 44*
  - *Materials Science and Engineering - LM 53*
  - *Chemical Sciences - LM 54*
  - *Science and Technology of Industrial Chemistry - LM 71*

  obtained by 15 January 2022.
  For foreign applicants, equivalent qualifications in the relevant university systems will be considered valid.
- With a **graduation score** of not less than 100/110
- **Age** not exceeding 27 years and 364 days as of 31/12/2021.
- **Excellent English knowledge**, which Eni will verify under its selection standards.

For foreign applicants, a good knowledge of written and spoken Italian will be considered preferential, possibly supported by certificates of understanding of the Italian language. The level of knowledge will be assessed during the selection process.

The number of students admitted is 25.

The selection of students will take place in the following phases:

PHASE 1: PRE-SELECTION BY POLITECNICO DI MILANO
The Energy Department, having received the applications, will evaluate the eligibility of each applicant based on the above requirements and will forward the list of applicants considered eligible to Eni Corporate University S.p.A. Eligible applicants will be invited to register online on the Eni website https://enirecruit.taleo.net/careersection/ext/jobsearch.ftl?lang=it referring to the code MSTMI2022

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. will identify, from among the eligible applicants registered on the above website (it is necessary to fill in all the data requested in the "Admission Requirements" section: graduation score, degree course, date of birth and knowledge of English), applicants to be admitted to Phase 2 - Selection. Eni will contact the applicants, who will be assessed and selected using different selection activities (language, aptitude and technical tests) to evaluate the English knowledge, the skill, motivational and technical features for the sector covered by the Master's Programme.

Eni and its affiliated companies will carry out the selection process in line with their internal procedures and policies (https://eni.com/it-IT/carriere/master-energy-innovation.html).
The selection tests will be online or at the Eni or its affiliated companies' offices from February - March 2022.
Indications and instructions on the selection process will be communicated to applicants by email in the lead-up to the selection process.

At the end of Phase 2, Eni will communicate the selection process results to each applicant. Those who successfully pass the selection will be enrolled in the Master's and will receive a monthly participation fee from Eni for the entire duration of the Master's Programme.

ART. 5
Formal requirements

The **admission application** must be submitted starting from the day after the date of this Decree and **by 15 January 2022.**
Only applications from those who have correctly followed the instructions set out in this Rector's Decree will be taken into consideration.
Failure to submit even just one of the documents required in the times and methods set out in this Rector's Decree may result in the applicant being automatically excluded from the selection process.
To apply, applicants should send their application form to Politecnico di Milano - Energy Department www.masterenergyinnovation.polimi.it

*** Italian/foreign citizens who graduated in Italy**

- Self-certification of personal identity (surname and name, place and date of birth, nationality, and residence)
- copy of the identity document
- copy of the Diploma Supplement or photocopy of the degree diploma and certificate with a list of exams taken for Old Educational System graduates
- Curriculum Vitae

*** Italian/EU citizens with qualification gained abroad**

- Self-certification of personal identity (surname and name, place and date of birth, nationality, and residence)
- copy of the identity document
- Photocopy of the academic qualification obtained, and a certificate showing the marks given in the individual exams or Diploma Supplement (**during enrolment, the certificate of equivalence issued by the relevant area's Italian Representative abroad or certificate issued by the Enic/Naric Centres must be submitted)**
- Curriculum Vitae

The admission application must state the following. "I authorise this University, under EU Regulation no. 2016/679 on data protection, to process personal data only for purposes related to the Master's admission, enrolment and management, and agree to the disclosure of my personal information to third parties, particularly:

- public and private entities interested in possible recruitment;
- to academic programme backers; Politecnico Treasurer for services related to tuition fees;
- entities managing unsecured loans, housing, flexible employment contracts, cultural, recreational or sports activities.
- I authorise the use of the data for statistical purposes in respect of the procedures and authorisations required by the cited regulation.

The extended information on data processing and data subject rights is available on the websitewww.polimi.it\privacy

*** Non-EU citizens who graduated abroad**

Non-EU foreign citizens must submit the following to the Politecnico di Milano Energy Department:

- **copy of the degree** in the original language and its translation into Italian/English/French or Spanish
- **copy of the transcripts** with the list of exams in the original language and their translation into Italian/English/French or Spanish **or Diploma Supplement**
- **copy of a** valid **passport**
- Curriculum Vitae

Under Art. 75 of Italian Presidential Decree 445/2000, if the administration, after carrying out suitable checks, finds that the content of the declarations made by the applicant is untrue, the declarant forfeits any benefits obtained by the measure issued based on the untrue declaration.

At least 30 days before the enrolment closing date as set out in this article.

The Politecnico di Milano Energy Department shall send the documentation listed above for the evaluation of qualifications, to participate in the Specializing Masters, to Politecnico di Milano, **Masters and Lifelong Learning Service, by the closing date of this call for applications**, in accordance with the provisions of the MIUR/MAE note "Procedures for entry, stay and enrolment of students applying for visas in higher education programmes in Italy for the 2021/22 academic year"

Following acceptance by the University, and only after confirming to the Politecnico di Milano Energy Department their participation on the Programme by the set methods, students must register on the Ministerial portal https://www.universitaly.it informing the Politecnico di Milano Energy Department that the registration has been completed in order for the application to be sent to the Representative responsible for issuing the entry visa.

ENROLMENT METHOD:

Students admitted to the Master's must create access credentials to Politecnico di Milano's Online Services on the website www.polimi.it. They must then enter their details and create a **person code**, attaching a valid identity document (passport for non-EU citizens), and communicate their person code to the Politecnico di Milano Energy Department. Students already registered must update their personal details, if they are obsolete.

Portal access credentials must be retained as they will be required to access all of Politecnico di Milano's services. Lost access credentials may be autonomously restored or obtained through an OTRS ticket.

Politecnico creates a temporary student identification number to allow the student to pay the enrolment fee via online services.

The achievement of an Italian degree can be self-certified by completing the appropriate form provided by the Politecnico di Milano Energy Department. A degree obtained abroad must be documented by presenting a **declaration of value (DOV)** issued by the Italian Representative abroad (Italian Embassy or Consulate) on letterhead complete with its original stamp**; or a certificate issued by the Enic/Naric Centres.**

In addition to the above documentation, **non-EU citizens must upload a copy of a valid residence permit on their online services personal data record**.

ART. 6
Degree and award recognitions

ISSUED CERTIFICATION
At the end of the Programme, after the student has passed the final examination, the second level Specializing Master's Diploma in "Energy Innovation" will be awarded in English.

Students admitted to the Master's final examination will pay the fee via the online services of Politecnico di Milano in order to be able to take the exam.

STUDENT OBLIGATIONS
Attendance is compulsory for at least 75 per cent of the programme activities. The lectures will be held at Politecnico di Milano, subject to the pandemic situation.
Cancellation from the Programme must be made in writing. The training period may not be suspended for any reason. The simultaneous enrolment on a Specializing Master's and on another Italian University academic programme is not allowed.

TESTING METHOD
There are intermediate tests and a final exam. The final examination will consist of an oral test with a dissertation on a project/thesis during the internship.

ART. 7
Tuition fees

Eni fully bears the Master's participation costs for admitted applicants, including the Politecnico di Milano enrolment fee (€500 per student).

ART. 8
Personal data processing

Under EU Regulation no. 2016/679 on data protection, the University processes personal data only for purposes related to the master's admission, enrolment and management, and agrees to disclose personal information to third parties, particularly:

- public and private entities interested in possible recruitment;
- academic programme backers; Politecnico Treasurer for services related to tuition fees;
- entities managing unsecured loans, housing, flexible employment contracts, cultural, recreational and/or sports activities.
- I authorise the use of the data for statistical purposes in respect of the procedures and authorisations required by the cited regulation.

The extended information on data processing and data subject rights is available on the websitewww.polimi.it\privacy

ART. 9
Publication

This Decree is made public on the Politecnico di Milano's website at https://www.polimi.it/corsi/master-universitari-e-corsi-post-laurea/

FOR INFORMATION ON THE SPECIALIZING MASTER'S:

Lifelong Learning Service
Politecnico di Milano - Energy Department
Via Lambruschini 4
20156 Milano (MI)
Ph.: +39 02-2399. 3855
Email: master-energyinnovation@polimi.it
www.masterenergyinnovation.polimi.it

The Rector
(Prof. Ferruccio Resta)
Signed Ferruccio Resta

Digitally signed document, under legislation.