

The Rector



POLITECNICO
MILANO 1863

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 the University's Educational Rules - Regulations;
HAVING REGARD TO the Regulation for 1st and 2nd level Specialising Masters, Post Graduate Courses and Continuing Education of Politecnico di Milano issued with Rector's Decree no. 0227162 of 04.10.2022;
HAVING ACQUIRED the favourable opinion of the Academic Senate during the meeting on 22.04.2024, on the establishment and activation of proposals for Specialising Masters, including the second level Specialising Master in "MATERIAL BALANCE DESIGN DIGITAL TECHNIQUES AND CIRCULAR INNOVATIONS IN ARCHITECTURE"

DECREES

that the second level Specialising Master in "MATERIAL BALANCE DESIGN DIGITAL TECHNIQUES AND CIRCULAR INNOVATIONS IN ARCHITECTURE" is established and activated for the years 2024/2025.

ART. 1

Master's features

The second level Specialising Master in "MATERIAL BALANCE DESIGN DIGITAL TECHNIQUES AND CIRCULAR INNOVATIONS IN ARCHITECTURE" has been set up and activated at the Department of Architecture, Built Environment and Construction Engineering.

The Master is provided by CIS-E Consortium (Consorzio CIS-E). The reference school is the School of Architecture, Urban Planning and Construction Engineering.

The Specialising Master's Director is Professor Ingrid Maria Paoletti. The Vice Director is professor Massimiliano Nistri.

The Scientific Committee of the Specialising Master's programme is composed by Professors from Politecnico di Milano: Massimiliano Nistri, Maria Pilar Vettori, Stefano Capolongo, Francesco Pittau, Laura Elisabetta Malighetti, Emilio Faroldi, Massimiliano Bocciarelli, Valentina Rognoli, Cinzia Maria Luisa Talamo, Alessandra Zanelli, Tiziana Poli and Ingrid Maria Paoletti.

ART. 2

Educational objective and employment opportunities

The Master's Course in 'Material Balance Design: Digital Techniques and Circular Innovations in Architecture' aims to provide advanced training for professionals capable of managing complex projects by taking full advantage of digital technologies and respecting current environmental imperatives. This course offers a unique opportunity to acquire in-depth knowledge covering all stages of the design process, from conception to the development of construction details, focusing on choosing materials for creating sustainable future environments. Students will acquire the skills needed to successfully manage complex projects through theoretical fundamentals and practical applications. The program includes classes focused on using state-of-the-art software for comprehensive project management, enabling students to be fully prepared for the industry's challenges. Educational modules offered include:

- WHAT IS A MATERIAL BALANCE
- PERFORMANCE-BASED DESIGN
- DIGITAL FABRICATION
- MATERIAL BODIES & DIGITAL PHENOMENOLOGY
- CIRCULAR MATERIALS SCOUTING
- EXECUTIVE DESIGN DEVELOPMENT
- FUTURE SCENARIOS
- BUILDING PHYSICS AND ENERGY SYSTEMS FOR ARCHITECTURE

An integral part of the curriculum is the opportunity for students to actively contribute to the research and development of new principles, tools, processes, and innovative products that redefine the designer's role in the contemporary context.

The Master's course aims to train a professional figure capable of managing with transversal skills the different activities that involve using new technologies to design and build, combining digital techniques and circular economy principles. Prestigious institutional and industrial partners will support the Master. Employment outlets are related to the following areas:

- Architectural and engineering firms
- Manufacturing companies for manufacturing with Bio-Based components - Industry 4.0 - Expert in digital technologies
- Expert in circular innovation
- Computational designer in studios or companies
- Bio-based materials strategy specialist
- Expert in innovative facades
- AI and Architecture
- DFMA & Project Management
- Innovative Start-up

The Master will be delivered in English and students can choose to attend the course online.

ART. 3 Teaching content and organisation

The Specialising Master's will start in **October 2024** and will end in **October 2025**.

The master's program in "Material Balance Design. Digital Techniques and Circular Innovations in Architecture" aims to train professionals to become unique and anticipatory figures in the evolving context of architecture. It will develop skills in digital techniques and strategies for circular innovation in architecture that are increasingly in demand in the national and international construction market. The master's will be taught in the classroom and online by Politecnico di Milano faculty, external professionals, and industry experts. Online master's students can view lectures synchronously or asynchronously throughout the Academic Year. All students will have access to lecture materials and videotaped lectures that will be uploaded to the online platform and remain available to students until their graduation date.

The master's is a **60 ECTS** programme and teaching will be organised as follows:

Didactic activity	MANDATORY Courses		
Course	SSD	Total Hours	ECTS
Theoretical background: what is a material balance	ICAR/12	8	0,5
Algorithmic design	ICAR/12	80	3
Digital fabrication	ICAR/10	264	11
	ICAR/12		
Material bodies & digital phenomenology	ICAR/10	100	4
	ICAR/12		
Circular material scouting	ICAR/11	60	2

Executive design development	ICAR/12	30	1
Hygiene & public health design	MED/42	15	0,5
Construction and sustainability design studio	ING-IND/11	15	0,5
Future scenarios	ICAR/10	8	0,5
	ICAR/12		
Skills	n.a.	20	1
Internship	n.a.	800	32
Final Thesis	n.a.	100	4

ART. 4 Admission requirements

Candidates with a Master of Science degree in engineering, Architecture and related disciplines are admitted to the master's program. Equivalent foreign qualification in their respective University Systems will be considered valid.

The maximum number of admitted students is 40. The selection process is carried out by the Scientific Committee.

ART. 5 Formal requirements

The **admission application** must be submitted to the managing authority starting from the day after the date of this Decree and by **September, 30th 2024**.

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 possibly interested in recruitment;
- to academic programme backers; Politecnico Treasurer for services related to tuition fees;
- to Managing Authorities managing loans, housing, flexible employment contracts, cultural, recreational and/or sport 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 website www.polimi.it/privacy

Admission documentation is available electronically at the following links: <http://www.cise.polimi.it/>; <https://www.materialbalance.polimi.it/> or by writing an e-mail at materialbalance-dabc@polimi.it.

The documents required for **admission** and **enrolment**, listed below, must be sent to:

Dipartimento ABC -Politecnico di Milano
Via Giuseppe Ponzio, 31
20133 Milano MI
email: materialbalance-dabc@polimi.it

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

- copy of the identity document
- copy of the Diploma Supplement or copy of the degree diploma or self-certification through the appropriate form provided by the Master's Managing Authority.

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

- copy of the identity document
- **copy of the academic qualification** in original language and its translation into Italian/English/French or Spanish
- copy of transcripts with the list of exams in the original language and their translation into Italian/English/French or Spanish or Diploma Supplement in English language (**when enrolling, the students have to submit:**
 - **the Declaration of Value issued by the relevant area's Italian Representative abroad** or
 - the **Diploma Supplement with digital signature or electronic time stamp** or, in case of absence of digital signature/electronic time stamp, **the Diploma supplement with apostille** or
 - **a certificate issued by the Enic/Naric Centres** or
 - **a certificate issued by the World Education Services - WES).**

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 through the untrue declaration.

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

Non-EU foreign citizens must submit the following documents to the Managing Authority:

- **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 (**when enrolling, the students have to submit:**
 - **the Declaration of Value issued by the relevant area's Italian Representative abroad** or
 - the **Diploma Supplement with digital signature or electronic time stamp** or, in case of absence of digital signature/electronic time stamp, **the Diploma supplement with apostille** or
 - **a certificate issued by the Enic/Naric Centres** or
 - **a certificate issued by the World Education Services - WES).**
- **copy of a valid passport)**

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

The Managing Authority shall send the documentation listed above to Politecnico di Milano Masters and Continuous Educations unit, for the evaluation of qualifications, **by the closing date of this call for applications**, in accordance with the MIUR/MAE's note " Procedures for entry, residency and enrolment of international students and the respective recognition of qualifications, for higher education courses in Italy for the academic year 2024/2025"

After the acceptance from the University, and only after confirming to the Managing Authority their participation to the programme in accordance with its procedures, students will have to register on the Ministerial portal <https://www.universitaly.it> . Once the registration has been completed, the student will have to inform the the Managing Authority, so that the application can be sent to the authorities responsible for issuing the entry visa.

ENROLMENT PROCESS:

Students admitted to the Master's Programme must create access credentials to Politecnico di Milano's online services on the website www.polimi.it. They also must enter their details, attach a valid identity document (passport for non-EU citizens) in order to create a **person code**, and send it to the Master's Managing Authority. Students already registered have to update their personal details, if they are obsolete.

Portal access credentials must be safely kept since they will be required for the access to all Politecnico di Milano's services. Lost credentials can 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.

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

In order to be enrolled at Politecnico di Milano, regardless of the Master's delivery mode (in person, online/distance learning), **non-EU citizens must upload a copy of a valid passport on their online services personal data record.**

ART. 6

Degree and award recognitions

ISSUED CERTIFICATION

In order to be able to take the final exam, students admitted to the Master's final examination have to pay the due fee through the online services of Politecnico di Milano.

At the end of the Programme, upon completion of the course and after passing the final test, the student will be awarded the second level specialising Master in "MATERIAL BALANCE DESIGN DIGITAL TECHNIQUES AND CIRCULAR INNOVATIONS IN ARCHITECTURE", in English language.

STUDENT OBLIGATIONS

Attendance is compulsory for at least 70 per cent of the programme activities.

Withdrawal from the Programme must be communicated in written form. The training period cannot be suspended for any reasons.

TESTING METHODS

The thesis will focus on a current and original topic chosen together with the speaker and the partner company.

ART. 7

Tuition fees and contributions

The cost of this Specialising Master programme (for the in-attendance mode) is € **8,000.00** divided as follows:

- Politecnico di Milano enrolment fee is € **500.00** per student.
- Participation fee is € **7,500.00** per student

Enrolment and participation fees (for the in-attendance mode) can be paid by the following dates:

- First instalment: € **2,500.00** by **04/10/2024**;
- Second instalment: € **2,500.00** by **31/01/2025**;
- Third instalment: € **3,000.00** by **04/04/2025**;

The cost of this Specialising Master programme (for the online attendance) is € **4,500.00** divided as follows:

- Politecnico di Milano enrolment fee is € **500.00** per student.
- Participation fee is € **4,000.00** per student

Enrolment and participation fees (for the online attendance) can be paid by the following dates:

- First instalment: € **2,500.00** by **04/10/2024**;
- Second instalment: € **2,000.00** by **31/01/2025**.

Politecnico di Milano enrolment fee will not be refunded under any circumstances.

Enrolment and participation fees can be paid to the bank account IBAN number: IT61F0306909606100000195446 – Account no. 100000195446 – CAB 09606 – ABI 03069 – CIN EUR 61 – CIN IT F – account holder Consorzio CIS-E - at Intesa San Paolo, Viale Romagna, 20, 20133 Milano (MI).

Specifying as the reason for the payment: **ID 2813 MU2 MATERIAL BALANCE DESIGN DIGITAL TECHNIQUES AND CIRCULAR INNOVATIONS IN ARCHITECTURE.**

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 you agree to the disclosure of your personal information to third parties, particularly:

- public and private entities possibly interested in recruitment;
- to academic programme backers; Politecnico Treasurer for services related to tuition fees;
- to Managing Authorities managing loans, housing, flexible employment contracts, cultural, recreational and/or sport 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 website www.polimi.it/privacy

ART. 9
Publication

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

FOR CLARIFICATIONS AND FURTHER INFORMATION, PLEASE CONTACT:

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P.zza Leonardo da Vinci, 32

20133 MILANO (MI)

email: materialbalance-dabc@polimi.it

Website: <https://www.materialbalance.polimi.it/>

The Rector
(Prof. Donatella Sciuto)
Signed Donatella Sciuto

Digitally signed document, under legislation.