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Piacenza Campus

POLITECNICO MILANO 1863

Piacenza Campus

POLITECNICO MILANO 1863 | PIACENZA CAMPUS

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POLITECNICO DI MILANO

Piacenza Campus

The Piacenza Campus is a site of the Politecnico di Milano, a scientific community founded in 1863 that trains thousands of engineers, architects, and designers every year and now encompasses about 50,000 people, including professors, researchers, students, and technical and administrative personnel.

The Politecnico is a point of excellence among Italian and international universities, synonymous around the world with quality and innovation, even in its relationships with social organisations and local companies. This result has been fed by the progressive spread of the university across the area, expanding since the 1980s from the centre of Milan and establishing campuses in different cities of Northern Italy.

Campus Caserma Neve

PIACENZA CAMPUS

Campus Arata

One of these is in Piacenza (since 1997), where positive, virtuous synergy between research, teaching, and technological transfer has led to the construction of close partnerships and collaborations with entities, institutions, and companies, creating professional outlets for young graduates and research applications.

The most common sectors are industrial, mechanics and energy (through the Engineering Bachelor of Science and Master of Science programmes), along with architectural and landscape design and environmental sustainability (in Architecture Bachelor of Science and Master of Science programmes).

As a confirmation of this connection, many local institutions support the Politecnico through the Polipiacenza Association: Fondazione di Piacenza e Vigevano, the Chamber of Commerce, Confindustria Piacenza, the Municipality of Piacenza, Province of Piacenza, Emilia-Romagna Region, Bank of Piacenza.

The Piacenza Campus of the Politecnico is unique due to its integration in the heart of the city's urban fabric. Its locations (Caserma Neve Campus and Arata Campus) close to each other are the result of recent work to recover historical sites with architectural and artistic value, renovated in places of culture and advanced with respect to classrooms and studios, libraries, meeting areas, and a range of innovative laboratories.

Education

Bachelor of Science (equivalent to Laurea) in Architectural Design

DEGREE CLASS L-17 – ARCHITECTURE

Architectural Design

The Bachelor of Science programme in Architectural Design provides knowledge of architecture in its logical-formal, historical, aesthetic, constructional, technological and representational dimensions. Architectural design covers different areas and scales: the city, the countryside, the building, the built environment and the interior.

The programme includes all the scientific, humanistic and artistic subjects that comprise the architect's knowledge, tools, skills and abilities. The programme is distinguished by the central role of the design experience and is based on the integration and synthesis of different subject areas. It seeks to foster synergy between laboratories and courses for the study of architectural subjects in their humanistic, artistic and technical-scientific dimensions, along with those that complement and expand the architect's areas of expertise. A traineeship rounds off the training.

At the Piacenza Campus, the L in Architectural Design shares objectives and learning outcomes with the programmes available at the Milan and Mantova sites. During the third year, in line with the Campus' cultural agenda, the teaching experience of the Final Design Laboratories and the elective courses will focus on the themes of environmental sustainability and landscape and open space design.

At the Piacenza Campus, in addition to the programme in Italian, a parallel programme is also offered that is entirely taught in English, with 50 places reserved for students from non-EU countries and 50 places available for Italian students and students from other EU countries. The English language programme also features the participation of international Visiting Professors.

Graduates in Architectural Design are offered professional opportunities in institutions and organisations, public and private companies, professional studios and design companies.
After passing the State professional examination, a graduate in Architectural Design can register with the Ordine degli Architetti, Pianificatori, Paesaggisti e Conservatori (National Association of Architects, Planners, Landscapers and Conservators), in Section B for the architecture category, with the title of Junior Architect. A graduate in Architectural Design has the educational credits required for accessing the Master of Science programmes (equivalent to Laurea Magistrale) aimed at training architects and building engineers-architects, in accordance with Directive 85/384/EEC. The Piacenza Campus also offers a Master of Science programme in Sustainable Architecture and Landscape Design, which integrates the skills of architectural studies with landscape design. Graduates can also access 1st level specializing master programmes.

Insegnamenti

First Year

- Architectural design studio
- Urban planning studio
- Elements of architectural typology
- Math
- History of architecture 1
- Fundamentals of representation
- Architectural technology fundamentals

Primo anno

- Laboratorio di progettazione architettonica 1
- Laboratorio di urbanistica
- Caratteri tipologici dell'architettura
- Matematica
- Storia dell'architettura 1
- Fondamenti della rappresentazione
- Fondamenti di tecnologia dell'architettura

Second Year

- Architectural design studio 2
- Building technology studio
- Statics
- Building physics
- History of art
- History of architecture 2
- Urban planning
- Heritage preservation fundamentals
- Digi skills. Space representation in digital environment

Secondo anno

- Laboratorio di progettazione architettonica 2
- Laboratorio di costruzione dell'architettura
- Statica
- Fisica tecnica e impianti
- Storia dell'arte
- Storia dell'architettura 2
- Urbanistica
- Fondamenti di Conservazione dell'Edilizia Storica
- Digi Skills. Rappresentazione dello spazio in ambiente digitale

Third Year

- Architectural design studio 3
- Historical building preservation studio
- Final design workshop
- Mechanics of materials and structures
- Project evaluation
- Elective course
- Internship

Terzo anno

- Laboratorio di progettazione architettonica 3
- Laboratorio di Progettazione dell'architettura degli Interni
- Laboratorio di progettazione finale
- Scienza delle costruzioni
- Estimo
- Corso a scelta dello studente
- Tirocinio

In Piacenza, a centre for landscape training and research

Starting in the 2025/2026 academic year, the Piacenza Campus of the Politecnico di Milano offers both the class-LM4 Master of Science programme in Sustainable Architecture and Landscape Design (SALD), and the class-LM3 Master of Science in Landscape Architecture – Land Landscape Heritage (LLH). The presence of the two Laurea Magistrale courses in Piacenza is designed to form a campus centre for training and research on landscape topics that stands out in the national and international scene and in the areas of reference between Lombardia and Emilia-Romagna, as well as within the university itself.

In the disciplines in the project, landscape training and research are becoming increasingly important. The evidence of environmental questions, integrated design of the landscape and infrastructure, care and renewal of the historical and landscape heritage, slow mobility and tourism, changes in the agricultural and forest landscape, and energy production from renewable resources via extensive solar panels and wind turbines are all topics that require professional figures capable of addressing technical and cultural questions related to design, management, and organisation.

To bring the highest level of knowledge to these problems within city, territorial, and landscape transformations, two training courses are offered, differentiated by the admission requirements and eventual degree. The LM4-SALD programme is open to three-year Laurea (equivalent to Bachelor of Science) graduates in Architecture who will obtain the title of Architect at the end, with a particular focus on addressing the relationship between buildings and landscapes. The LM3-LLH degree is open to graduates in Architecture, Urban Planning, Agriculture, and Forest Sciences who will obtain the title of Landscape Designer at the end, that is, an expert in landscape architecture who designs and builds works such as parks, gardens, solutions for inserting infrastructure and agricultural production systems in the landscape, as well as the preparation of landscape plans and plans/projects to preserve and restore historical landscapes.

Photo by Davide Simoni, Lecce, 2021

Master of Science (equivalent to Laurea Magistrale)

DEGREE CLASS LM-4 - ARCHITECTURE AND ARCHITECTURAL ENGINEERING

Sustainable Architecture and Landscape Design

The Master of Science programme in Sustainable Architecture and Landscape Design, delivered in English and belonging to Degree Class LM-4 Architecture and Architectural Engineering, integrates the scientific and technical skills of the polytechnic culture of architecture studies with those of landscape design.

Aimed at training highly competent professionals in the specialized fields of Sustainable Architecture and Landscape Design, it offers a training programme capable of tackling the problems of architectural and urban composition at different scales of involvement, with particular attention being paid to the sustainability of inhabited areas and the transformation of open spaces and infrastructures.

The technical and scientific skills on offer meet the demands of an increasingly global context. To support the internationalisation project, a number of parallel initiatives such as workshops, International Summer Schools and study trips are also planned in the two semesters. The programme in Sustainable Architecture and Landscape Design complies with Directive 2013/55/EU on the recognition of professional qualifications.

A graduate from this programme is capable of carrying out managerial functions in public or private institutions and bodies and as a freelancer, both independently and in professional offices and design companies. Graduates in Sustainable Architecture and Landscape Design can participate in the State professional examination for registration with the National Professional Register of Architects; LM-4 graduates can also register in Section A, Sector:

— A - Architecture
— B - Territorial planning
— C - Landscaping
— D - Conservation of the architectural and environmental heritage

After passing the State professional examination, the graduates will be able to practice as an architect in the Member States of the European Community (Official Journal of the European Union No 2004/C 322/02 of 29/12/2004).

The programme in Architecture also allows access to further studies, such as PhD programmes, 2nd level specializing master programmes and specializing courses.

Courses

First year

- The debate on sustainability: history, theories and contemporary approaches
- IC Landscape representation and modelling (Land surveys and representation methods, GIS applications)
- Sustainable energy systems and processes
- Steel, timber and reinforced concrete structures
- Architectural design studio 1 (Sustainable architecture, Multi-criteria analysis and project appraisal)
- Sociology of the environment
- Urban and environmental design studio (Design of public spaces and infrastructures, Agronomy)
- Urban and landscape regeneration studio (Environmental technology, Landscape as heritage, General ecology)

Second year

- Landscape design studio (Advanced landscape design, Physical geography and geo-morphology, Applied botany)
- Architectural design studio 2 (Advanced Architectural design, Landscape aesthetics)
- A course among Special Topics in: Landscape, Urban Design, Urban Planning, Environmental Design
- 2 optional course among: BIM applications; Creativity and Architecture In the Movies; Resilient strategies in risk situations; Architecture for smart city; Architecture, art and public space; Topics in Landscape Architecture History and Theory

Master of Science (equivalent to Laurea Magistrale)

DEGREE CLASS LM-3 LANDSCAPE ARCHITECTURE

Landscape Architecture – Land Landscape Heritage

The Master of Science programme in Landscape Architecture (LM3 is delivered at the Piacenza Campus with a revised structure and curriculum. The programme, instituted in 2017 as Landscape Architecture – Land Landscape Heritage (LLH), prepares experts in landscape design.

Laboratories and integrated courses provide students with training in which professors of technical subjects, hydrology, geology, applied botany, ecology, arboriculture and environmental engineering work with experienced designers specialising in green areas, landscape, land and public spaces, and architectural constructions. The Italian landscape, with its richness, diversity, and vulnerability, is a laboratory and field of action for educational, theoretical, and design activities, guided by three core principles: soil, landscape, and heritage.

Landscape architecture graduates can pursue careers in different fields, including designing public and private parks, gardens, and outdoor spaces across urban, peri-urban, and rural settings; conservation, management, restoration, and functional reorganisation of historical parks, gardens, existing open spaces, environmental and cultural heritage sites, and archaeological areas (excluding built structures); landscape planning and design for largescale regional systems; redevelopment of degraded or abandoned landscapes; landscape design for infrastructure and energy projects, incorporating ecological infrastructure, environmental systems, and scenic routes; along with landscape analysis, assessment, and environmental impact studies.

The programme is held in English and is designed for students with a Bachelor of Science in Architecture, Urban Planning, Environmental Engineering, Civil and Environmental Engineering, and Agricultural, Forestry and Environmental Sciences. Graduates from other three-year Bachelor of Science programmes focused on the humanities, geography and landscape sciences, art, and cultural heritage may be considered for admission with possible added educational requirements. International students (EU and non-EU) have access based on foreign Landscape Architecture Bachelor's degrees or other degrees assessed during admission.

Graduates in Landscape Architecture – Land Landscape Heritage (LLH) can participate in qualification procedures (state professional examination and qualifying internships) to enrol with the professional register of Architects, Planners, Landscape Architects, and Conservation Specialists, under Section A, 'Landscape' sector. In Italy, the AIAPP represents professionals, professors, researchers and students active in landscape architecture; it is a member of IFLA (International Federation of Landscape Architects) and IFLA Europe(International Federation of Landscape Architecture Europe)

Courses

First year

- Landscape and Infrastructure Design Studio
- Ecology and Agroecology
- Landscape Culture and History
- Landscape and Infrastructure Design Techniques
- Geomorphology and Landscape
- Open Space Systems and Parks Design Studio

Second year

- Environmental Analysis and Landscape Mapping
- Urban Forestry and Landscape Planning
- Conservation and Management of Historic Gardens and Landscapes
- Built Environment and Landscape Design Studio
- Frontiers of Landscape Design Studio

Among the optional courses the course offers

- Contemporary Landscape Theory and Practice (thematic course and workshop)
- Transitional Landscape Metabolism
- Landscape Representation

The thesis (10 credits - ECTS) consists of the development of a project or theoretical/ applicative research

Architecture laboratories

Modelling Laboratory and Fab Lab

From the first year of their Bachelor of Science programme at the Piacenza Campus, Architecture students can use the Modelling laboratory and the Fab Lab, which are dedicated to the creation of architectural models and building components with the use of professional equipment.

The Modelling laboratory has machines, tools and equipment for the preparation, processing and assembly of models at different scales and sizes. The Fab Lab is a space for sharing, training and realizing projects, which includes a 3D printer and a “laser cutter” plotter.

These spaces are located on the Arata Campus, in the Bacciocchi Pavilion, and are designed as “workshop spaces” in which students have the opportunity not only to experiment with the most advanced techniques for constructing models, maquettes and 3D models, but also to further develop their training through direct and oriented application.

Access to the Modelling laboratory and Fab Lab is only permitted to those who have attended the information and training course on safe access to the laboratory spaces and equipment.

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POLITECNICO DI MILANO

Architecture

Traineeship

For both the Bachelor of Science programme in Architectural Design and the and the Master of Science programme in Sustainable Architecture and Landscape Design, the traineeship is compulsory (curricular traineeship producing credits - ECTS). The traineeship within the programme in Architectural Design can take place in the second semester of the second year or in the third year, lasts 100 hours and can be carried out either full-time or part-time. The traineeship within the programme in Sustainable Architecture and Landscape Design can take place in the first or second year, lasts 200 hours and can be done either full-time or part-time.

For both programmes students may undertake, always working under the guidance of a tutor:

01 an external traineeship in italy or abroad

02 an in-house practical activity (traineeship)

03 a workshop or a professional course

In addition to the compulsory traineeship, students may undertake one or more optional traineeships, which do not count towards the acquisition of credits and must be completed before the thesis discussion.

PIACENZA CAMPUS

Bachelor of Science (equivalent to Laurea)

DEGREE CLASS L-9 - INDUSTRIAL ENGINEERING

Industrial Engineering

The Bachelor of Science programme in Industrial Engineering, taught entirely in English, is designed to train engineers who are ready to tackle the challenges of the future and shape tomorrow's industry. Organised into quarters and featuring close collaboration with industry partners, the programme combines theory and practice from day one - with a focus on manufacturing, automation, logistics, sustainability and digital innovation.

This educational programme was developed in response to the needs of the region where the Campus is based. As one of the most industrialised areas in Italy, this region is experiencing strong growth in the logistics, mechanical engineering and manufacturing sectors. The aim is to have engineers who are well-trained, versatile and ready to enter the job market by the end of the three-year programme.

The programme is designed to provide a solid foundation in science and engineering, to integrate theory and practice through close collaboration with industry, and to train versatile engineers capable of leading sustainable and innovative industrial systems within a unique international programme that is deeply rooted in a dynamic industrial ecosystem. The programme offers a solid grounding in mechanics, logistics, production process management, data analysis, energy efficiency and electrical systems management, whilst developing the ability to collaborate with all departments within the company, and tackle the challenges of an increasingly fast-paced and complex market.

The programme stands apart for its innovative teaching model organised into quarters to enhance student engagement, practical experience, and direct links to industrial applications. Programme features include morning lectures and afternoons devoted to lab-related activities, guided study and group work, ongoing educational assessments, workshops integrated into the curriculum, and partnerships with local companies in the machine tool, agri-food and logistics sectors, among others.

Graduates are systems thinkers, capable of integrating multiple disciplines, optimising end-to-end processes, collaborating across departments (R&D, production, logistics, quality), and promoting innovation and sustainability.

After passing the State Professional Examination, graduates can enrol with the Italian Register of Professional Engineers (section B). Admission to Master of Science programmes (equivalent to Laurea Magistrale) at the Politecnico di Milano in Mechanical Engineering, Energy Engineering, Electrical Engineering, Management Engineering or other related programmes is subject to an assessment of the applicant's previous academic resume. Graduates can also access 1st level master's degree programmes.

Courses

First year (launched in the academic year 2026/2027)

Autumn term

- Mathematics 1
- Engineering drawing (with laboratory)
- Academic and professional skills

Winter term

- Engineering physics (with laboratory)
- Chemistry and materials (with laboratory)
- Introduction to computing and Python

Spring term

- Mathematics 2
- Engineering mechanics (with laboratory)
- Programming and data structures with Python

Second year *

- Business management and industrial systems
- Thermal engineering (with laboratory)
- Mechanics of materials and structures
- Engineering data analysis (with laboratory)
- Electrical circuits (with laboratory)
- Computational methods (with laboratory)
- Sensors to systems (with laboratory)

Third year *

- Manufacturing process (with laboratory)
- Component design (with laboratory)
- Industrial electrical systems (with laboratory)
- Thermofluid systems for energy conversion (with laboratory)
- Elective courses
- Internship
- Final project

*** The study plan for the second and third years is subject to change**

Bachelor of Science (equivalent to Laurea)

DEGREE CLASS L-9 - INDUSTRIAL ENGINEERING

Mechanical Engineering

The Bachelor of Science programme in Mechanical Engineering trains engineers to deal with both the design and the production and management of products, technological processes and industrial plants; therefore it trains professionals able to operate in all areas of Industrial Engineering.

Particularly in the early years, the programme provides a solid technical and scientific background, which the economic and applied skills can be built upon. This preparation is completed in the third year of the programme (in the "Preparatory" and "Professional" tracks) and in the Master of Science programme, with the in-depth study of specialist knowledge required for professional activity.

At the Piacenza Campus, the first and second years of the programme are taught in the same way as the first and second years at the Milan Bovisa Campus, as well as the third year of the "Preparatory" track. The third year with a professional focus on "Machinery and Production Plants" is only available at the Piacenza Campus and offers a wide-ranging and at the same time in-depth preparation for professional activities in relevant areas of local and national industry.

The "Preparatory" track includes courses that allow direct access to the Master of Science programme in Mechanical Engineering. The "Machinery and Production Plants" track includes courses that facilitate entry into the world of work.

The courses in the third year supplement the basic training with content in the areas of mechanical and energy systems, industrial logistics and machining systems. There is also a significant amount of in-company training.

The graduate is prepared to develop the design of mechanical systems from a functional, constructional and energy point of view, and the arrangement, operation and use of machines in a plant.

After passing the State professional examination, graduates in Mechanical Engineering will be able to register with the Ordine degli Ingegneri (National Association of Engineers) (Section B). Continuation of studies (Master of Science in Mechanical Engineering or related programmes) is subject to assessment of the previous curriculum. Graduates are also eligible for 1st level specializing master programmes.

Courses

First year

- Calculus 1
- Chemistry
- Informatics B
- Methods of technical representation
- Calculus 2
- Fundamentals of experimental physics
- Metallurgy and non metallic materials

Second year

- Machine design
- Thermodynamics and heat transfer
- Principles of electrical engineering
- Statistics
- Mechanics
- Fluid mechanics
- Manufacturing technology

Third year / Preparatory

- Analytical and numerical methods for engineering
- Fluid mechanics
- Management and industrial engineering
- Statistics
- Mechanics of vibrations
- Fluid-Machines
- Methods of structural analysis
- Mechanical design laboratory

Third year / Production plants and machinery

- Fluid mechanics
- Machines and systems for energy
- Mechanical plants
- Modelling and computer assisted analysis of mechanical structures
- Machine tools
- Logistics
- Traineeship

Master of Science (equivalent to Laurea Magistrale)

DEGREE CLASS LM-33 - MECHANICAL ENGINEERING

Mechanical Engineering

"FA5 – Mechatronics for manufacturing" track"

At the Piacenza Campus the Master of Science programme in Mechanical Engineering with specialization in "Mechatronics for Manufacturing" is delivered in English. The aim is to create professionals who specialize in the design, integration, monitoring and control of complex mechatronic systems such as robots, automatic machines, machining centres, etc. The structure of the programme makes it possible to specialize right from the first year.

Future engineers will be able to use new tools and methodologies, such as sophisticated simulation techniques, tools supporting digitization, and artificial intelligence, etc. The skills acquired will be important for developing innovative solutions both during the conceptual design of machines and during their use in the production environment. The training provided will enable them to carry out, both domestically and possibly abroad, various roles in the business environment: from research and development to production as well as technical and commercial functions. They will also be able to carry out consultancy work or undertake innovative entrepreneurial initiatives such as start-ups or spin-offs. This training pathway is the answer to an industrial landscape that needs an increasingly structured innovative boost and is facing complex and constantly evolving challenges. Manufacturing companies have to respond faster and faster to the demands of the market, they have to do so with smart and sustainable solutions, and they have to ensure circular approaches geared towards reducing resource exploitation. The "Mechatronics for Manufacturing" track aims to train professionals well prepared to meet these challenges.

The core courses of "Mechatronics for Manufacturing" are system mechanics, machine building, machining technologies and systems and automatic controls. They also provide examples of industrial applications and several companies are actively involved in the delivery of content and workshop sessions.

Specifically, the close link between education and industry is embodied in the course provided by Siemens at the Digital Experience Center (DEX), a prestigious centre on an international level, located in Piacenza, a few kilometres from the University Campus. Thanks to the use of innovative software tools and state-of-the-art machinery, students have the opportunity to actively engage in the creation of digital twins of systems and to make them interact with a corresponding physical part, experimenting with innovative approaches to design and simulation.

Teaching activities take advantage of the availability of the MUSP (Laboratory for the Study of Machine Tools and Production Systems, part of the Emilia-Romagna High Technology Laboratory Network) - located at Piacenza Technopole - where innovation projects and applied research activities are developed together with the main companies in the sector and where students have the opportunity to carry out laboratory experiences and develop projects.

Graduates from the Master of Science in Mechanical Engineering, after passing the State professional examination, can register with the Ordine degli Ingegneri (National Association of Engineers) (Section A). The programme allows graduates to take part in selections for PhD programmes and to access specializing courses and 2nd level specializing master programmes.

Courses

First year

- Measurements and industrial internet of things
- Dynamic and control for mechatronics
- Digital and advanced manufacturing
- Machine design for mechatronic and robotic systems
- Smart materials
- Advanced feedback control design
- Mechatronics for sustainable manufacturing

Second year

- Robotics for manufacturing
- Lab course – Machinery mechatronic design
- Courses chosen among Computational fluid dynamics for manufacturing processes, Energy systems, Vision based 3D measurements, Machine learning and model identification for mechanical system, Finite element simulation for mechanical system, Precision machine design, XR applications for engineering, Cyber physical manufacturing systems, Open course
- Thesis work and final defence

Master of Science (equivalent to Laurea Magistrale)

DEGREE CLASS LM-30 - ENERGY AND NUCLEAR ENGINEERING

Energy Engineering

P“Renewables and Environmental Sustainability – RES” track

Energy engineering is the field of industrial engineering that deals with the designand operation of energy plants and their components. Processes, plants and individual equipment are analysed with a variety of objectives in mind: not only functionality, reliability, profitability, safety and good performance, but also the intelligent use of resources and low environmental impact.

In this context, energy technologies for exploiting renewable sources and reducing the environmental impact of fossil fuels are playing an increasingly important role. The professional required to achieve these objectives must be able to combine a sound knowledge of energy conversion processes with mastery of the mathematical tools needed to optimize them and the ability to assess their sustainability. The energy engineer’s focus on environmentally friendly scientific and technological development is a key ingredient of sustainable energy and industrial policies, which in turn are indispensable for ensuring growth and balanced prosperity for mankind. The “Renewables and Environmental Sustainability track at the Piacenza Campus provides for a special training course aimed at training a professional figure with transversal skills in energy and environmental issues:

— clean and safe energy
— sustainability
— smart transport
— efficient use of energy and materials
— sustainability of bio-resources

The energy engineer graduating from this programme will acquire an in-depth knowledge of the operational principles, technologies and management methods of lowcarbon and low-impact systems, principles of technical/economic regulation of energy systems, design and use of tools for process analysis, management of multidisciplinary projects, scenario analysis, impact assessments, sustainability assessments. After passing the State professional examination, graduates can enroll on the Ordine degli Ingegneri (National Association of Engineers) (Section A). The Master of Science programme in Energy Engineering provides access, after a selection process, to PhD programmes, specializing courses and 2nd level specializing master programmes. Scholarships are available for both Italian and foreign students.

Courses

First year

- Functional analysis and numerics for PDES
- Numerical methods for optimization
- Energy systems
- Energy and environmental technologies for building systems
- Fundamentals of chemical processes for energy and environment
- Electric conversion of renewable energy sources
- Renewable energy
- Low-carbon technologies
- Smart grids and regulation for renewable energy sources

Second year

- Industrial ecology
- Air pollution and control engineering
- Bio-energy and waste-to-energy technologies (I.C.)
- Process modeling lab (computer lab)
- IoT-Driven thermal system (computer lab)
- Energy systems optimization (computer lab)
- Energy and environmental technologies for building systems
- Depending on the study plan submitted, another optional course will be attended in Milano (Bovisa or Leonardo)

Engineering laboratories

IEM Lab - Integrated Electric Mobility Laboratory

The Integrated Electric Mobility (IEM Lab) laboratory of the Piacenza Campus of Politecnico di Milano conducts research and experiments on efficient, intelligent, and sustainable electric mobility. These studies address the interaction between vehicles, users, and charging infrastructure, especially focusing on consumption and charging modes.

The laboratory makes use of digital environments created with virtual and augmented reality simulations to reproduce urban and non-urban routes enhanced by actual driving conditions. The main purpose is to assess how different driving behaviours impact the energy demand of electric cars and buses. The analyses consider various vehicle models, batteries, and charging systems.

Another area of research concerns urban micromobility. In this case, studies explore the interaction between people, electric bicycles, and kick scooters in many usage scenarios. The laboratory also studies wireless charging via Wireless Power Transfer (WPT), analysing the effects of magnetic fields on biomedical equipment.

The expertise acquired is also applied to drone charging stations. IEM Lab thus converges simulation and experimental tests to both explore innovative solutions for electric mobility, and develop sustainable transport systems.

Engineering laboratories

Thermal Energy Storage Innovation Laboratory ThESI Lab

The Thermal Energy Storage Innovation Laboratory – ThESI Lab is the applied research laboratory of Politecnico di Milano. It is located on the Caserma Neve Campus, where the storage and conversion of thermal energy from medium and low-temperature sources (such as waste heat, solar thermal energy, geothermal energy and heat pumps) are studied and tested. The ultimate aim is to improve energy efficiency for sustainability across various civil and industrial sectors, including temperature-controlled logistics. The laboratory is equipped with instruments for testing materials and prototypes of heat exchange systems (climatic chamber, cryostats, heat flux meters).

One key area of research concerns PCMs (Phase Change Materials), which store and release energy during phase transitions, helping to maintain stable temperatures and reduce peaks in demand. Applications include buildings (comfort), energy systems and cold chain solutions for the food and pharmaceutical sectors.

Located at the heart of the Campus, the ThESI Lab offers Bachelor of Science and Master of Science students at the Campus the opportunity to get directly involved in research with dissertations, experimental work, study placements and projects with companies or through competitive calls for proposals.

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Engineering laboratories

Mechanical Engineering Laboratory

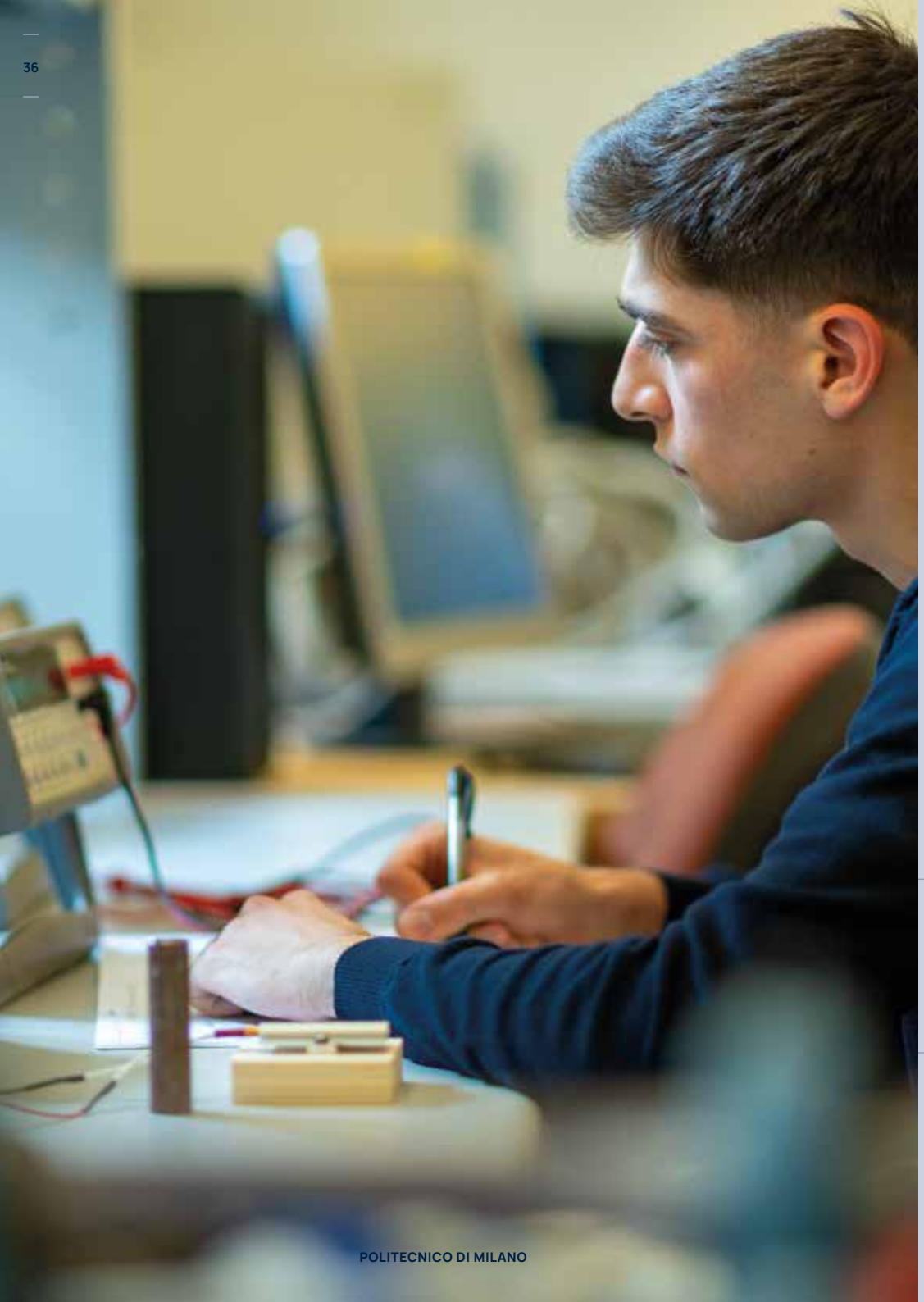
The Mechanical Engineering teaching laboratory, located on the Caserma Neve Campus, focuses on experimental and applied activities in the field of mechanical engineering. Work is designed to complement theoretical training with practical experience of systems, components and measuring instruments.

The laboratory enables students to carry out practical work on the main measurement techniques, including dimensional measurements, static and dynamic calibration of measurement systems, and strain gauge testing for the assessment of deformations. The range of equipment available includes transducers, signal conditioning systems, data acquisition systems, and laboratory power supplies.

The laboratory is also equipped for experimental studies on the functional and dynamic behaviour of mechanical systems. Motor–transmission–load assemblies with inverter-controlled motors, two-degree-of-freedom oscillation systems, simplified models of machine axes, and transmission and equipment systems for vibration analysis are available.

The laboratory provides a specialised learning environment for developing experimental skills, analysing mechanical phenomena and understanding the interaction between mechanical systems and measurement systems.

PIACENZA CAMPUS



POLITECNICO DI MILANO

Engineering

Traineeship

A traineeship is a training experience in the field, directly linked to the contents of the study programme. It allows students to spend several months in a company, organization or design studio (in Italy or abroad), working under the guidance of a tutor.

During the traineeship, the student gets to know the reality and problems of the working world, according to a training project in which the methods of analysis and resolution learned during the course of study are to be applied directly.

During the traineeship, the student provides the host organization with his or her academic background in relevant practical situation, taking an active part in defining the problem and solving it, and acquiring know-how on the subject in question by being placed in a fully operational setting.

For students in the third year of the “Professional track” the Bachelor of Science programme in Mechanical Engineering, the traineeship is compulsory and involves 300 hours (curricular traineeship corresponding to 12 ECTS) preceded by an internship induction programme (corresponding to 1 ECTS).

For students on the Master of Science programme in Mechanical Engineering and Energy Engineering (Renewables and Environmental Sustainability - RES), the traineeship is optional and therefore does not entitle them to any ECTS.

PIACENZA CAMPUS

Student Services

Library

The library of the Piacenza Campus was set up with the aim of providing adequate support for the research and teaching requirements of the study courses offered on the Caserma Neve and Arata Campuses.

More than 7000 monographs are available on open shelves and 4 current subscription periodicals. The electronic periodicals, databases and e-books can be consulted from the library's workstations or from home by setting up the University proxy.

The library has 4 rooms with 25 seats for consultation and individual study.

To access the services, users must be registered and enabled in the University's authentication system. Access to the library is granted by showing the Policard, while access to the study rooms is granted by using the Affluences APP, which provides real-time information on the occupancy rate of seats in the library and the reservation of individual study places. Library services and the catalogue are also accessible via the Polimi Library application.

IT Services

Computer Rooms

The centre currently has four computer rooms with a total of more than 120 workstations, which are open from 7.30 a.m. and one of which can be used until midnight.

All computer rooms are equipped with workstations capable of running the latest solid modelling and simulation programmes. Each computer rooms is equipped with a fixed or mobile audio/video system and network printers in colour or black and white.

Each classroom and computer room is also equipped with a blended learning system for face-to-face and remote teaching. All the workstations can also use the plotters and scanners at the centre. Each student has a disk space quota and a free annual printing quota.

IT Services

The University's online services portal is your personal page where the services linked to your career profile are listed and where your University credentials, which you can use to access other services, are stored.

WeBeep

The online e-learning environment of the Politecnico di Milano that can be used with the University's credentials. It brings together access to the educational resources made available for individual courses and simplifies communication with teachers and students.

Network Connection

Connection without any configuration to the wireless network (wi-fi) with temporary access via University Credentials or permanent access set up through the generation of a personal digital certificate.

E-Mail Services

After career activation, each student is assigned a University email address.

Cloud Services

OneDrive for Business

— personal cloud storage and collaboration space;
— 1 TB of online storage space;
— create and edit office family files such as Word, Excel and PowerPoint directly from
— the browser;
— document sharing and document search;
— co-authoring, versioning and email notifications when content changes;
— recover files deleted in the last 30 days.

Microsoft 365 Apps

Each user can install Microsoft 365 Apps as described on the University portal. The Microsoft 365 Apps suite includes: Word, Excel, PowerPoint, OneNote, Access, Publisher, Outlook, Teams, OneDrive For Business.

Study And Teaching Software

The University offers a wide range of software for education and learning. The service provides software packages with "educational" licences, which entails that the use of the applications is strictly limited to the University's institutional activities, excluding any use for personal, private professional or profit-making purposes.

Printing Service

Students enrolled at the Piacenza Campus have an annual printing credit at their disposal. They can therefore use the printers at their disposal, progressively deducting the cost of printing from their virtual credit and checking the remaining credit on the calculators using "print credit check" software. There are a number of printing devices on the Campus, all connected to the local network, for printing from the various fixed locations.

Virtual desktop

This is a virtual environment where specific software for teaching activities is made available. Individual users can access the service via a PC connected to the network (personal or already present in the classroom) and use the software as if they were on their own computer. The virtual desktop service can be used both in the classroom and remotely at specific times.

POLITECNICO DI MILANO

Refreshment Points

On the two sites of the Piacenza Campus, students have wellequipped rooms for their study and lunch breaks at their disposal:

— on the Caserma Neve Campus there is a refreshment area equipped with 6 microwave ovens, 3 self-service vending machines for snacks, ready meals, hot/cold drinks and 1 dispenser of natural and sparkling water, which can be used free of charge;

— on the Arata Campus the refreshment area (which also has a pleasant outdoor area with tables and chairs) is equipped with 2 microwave ovens, 3 self-service vending machines for snacks, ready meals, hot/cold drinks and 1 dispenser of natural and sparkling water, which can be used free of charge.

Both campuses also have some areas equipped with free microwave ovens and self-service vending machines for snacks, ready meals and hot and cold drinks.

PIACENZA CAMPUS

POLITECNICO DI MILANO

Sports

Every year, the Politecnico di Milano signs agreements with various types of sports facilities and/or associations for services that allows students to access the above-mentioned facilities and activities at a very favourable cost.

Students can purchase a subscription from the Politecnico at a very favourable cost, or purchase the desired service directly from the facility with dedicated discounts.

All Politecnico di Milano students can therefore access the affiliated systems and activities offered at their campus or other university locations. They can also participate in numerous sports events organised throughout the year by the Politecnico Sports Office.

PIACENZA CAMPUS

Scholarships and Graduation Awards

Politecnico di Milano supports its students' studies by providing benefits in the form of university financial aid (Diritto allo Studio Universitario – DSU) as well as awards and scholarships.

To obtain the DSU (scholarship consisting partly of cash, partly of services, in particular the catering service) interested students must participate in a special call published every year by the Politecnico di Milano. Beyond the benefits in the call for the DSU, the Politecnico di Milano and other entities also issue awards and scholarships.

PIACENZA CAMPUS

In addition to support offered by the university, students enrolled at the Piacenza Campus can participate in calls for scholarships provided by local entities, associations, companies, and private parties.

01

“Confindustria Piacenza-Cesare Betti” Scholarship

An annual scholarship of €5,000.00 for Bachelor of Science graduates in Mechanical Engineering or Architectural Design at the Piacenza Campus registered in Master of Science programme at the Politecnico di Milano.

02

“Douglas Chero” Scholarship

An annual scholarship of €5,000.00 for students enrolled in the second or third year of the Bachelor of Science programme in Mechanical Engineering or Architectural Design at the Piacenza Campus.

03

“Dr. Ing. Aldo Aonzo” Scholarship

An annual scholarship of €5,000.00 for students enrolled in the first year of the Bachelor of Science programme in Mechanical Engineering at the Piacenza Campus. The scholarship may be renewed for the remaining two years of the programme when requirements are met.

04

“Girls@PoliPc” Scholarship

An annual scholarship of €2,500.00 for female students enrolled in the first year of the Bachelor of Science programme in Mechanical Engineering at the Piacenza Campus.

05

“Ing. Alessandro Ghisoni” Scholarship

An annual scholarship of €1,000.00 for students enrolled in the second or third year of the Bachelor of Science programme in Mechanical Engineering at the Piacenza Campus.

06

“Ing. Attilio Ceresa” Scholarship

An annual scholarship of €1,000.00 for students enrolled in the second or third year of the Bachelor of Science programme in Mechanical Engineering at the Piacenza Campus.

07

Scholarships for international students

Politecnico di Milano, through the Polipiacenza association, offers a number of scholarships for international students:

— Merit-based scholarships - Gold Piacenza Campus Scholarships
— Merit-based scholarships - Bronze Piacenza Campus Scholarships
— Scholarships for students enrolled in the Bachelor of Science programme in Industrial Engineering at Piacenza Campus

POLITECNICO DI MILANO

Experiences Abroad

Politecnico di Milano offers its students various opportunities for an international transfer experience.

Students can spend a period of study abroad, generally from two months to a year, in order to attend courses and obtain credits that are fully recognised by the Politecnico di Milano in the student's career. Or they can go abroad for a period of research for their thesis.

There are various opportunities on offer:

— Erasmus+ Programme provides the opportunity to carry out study activities (courses or thesis) at a foreign partner university or a traineeship in a European company;
— mobility is also possible outside Europe, thanks to exchange agreements with numerous partner institutions;
— University has also signed numerous double degree agreements aimed at obtaining a foreign qualification, in addition to the qualification awarded by the Politecnico di Milano.

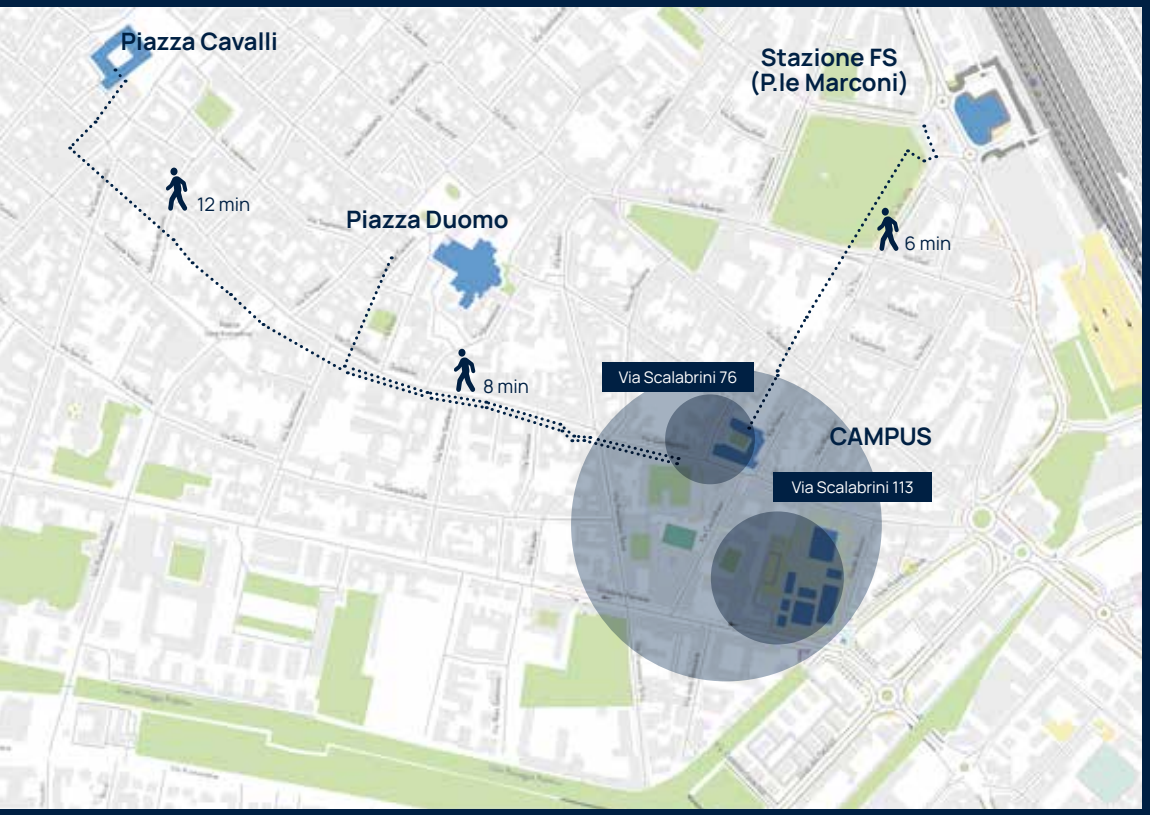
In addition, students can participate in special exchange programmes (Unitech, Enhance, Erasmus KA171) or short mobility periods within specific networks, such as Athens and IDEA League.

It is possible to apply according to the times and procedures provided for in the competition notices published on the Politecnico di Milano website: the criteria and periods for application and selection are specified in the notices themselves.

The available destinations are listed in the "Map of Partner Locations" available on the University website (Campus & services > International mobility > Study abroad > The opportunities > Browse the map).

Students interested in further information can contact the University's International Mobility Unit, the office that supports students before, during and after their transfer period abroad.

PIACENZA CAMPUS



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