POLITECNICO MILANO 1863

School of Industrial and Information Engineering

The training experience offered to the students of the Master's Degree in Mobility Engineering

What does a Mobility Engineering engineer do?

The primary objective of the MSc Study Program in Mobility Engineering is to train specialists capable of addressing the complexity of mobility systems and their dependence on the interaction of various critical aspects, particularly in relation to system safety, technology, system planning and management, and urban development. It is therefore essential that students delve into the following topics, grouped here by macro-area, from both a conceptual and methodological perspective and from an implementation and application perspective:

- integrated mobility systems;
- mobility and urban development scenarios.
- new business models and financial analysis.
- evolution of vehicle technology;
- asset management and maintenance;
- infomobility and IT technologies to support integrated mobility.

Graduates in Mobility Engineering are specialists capable of managing the complexity of mobility systems and the interactions between technological, managerial, safety and risk analysis, ethical and strategic aspects.

What do you study?

The **Degree Program** (*Manifesto degli Studi*), divided by academic years and semesters, is the set of educational activities (courses, laboratories, internships, final examinations), either compulsory or elective, that make up the educational offer of a Study Program (*Corso di Studi*).

The **Study Plan** (*Piano degli Studi*) is the list of educational activities that the student intends to undertake during each academic year. The Study Plan is normally compiled by selecting educational activities from the offer defined in the Degree Program (*Manifesto degli Studi*) of the student's own Study Program. In this case, the Study Plan is automatically approved.
Students may also request to include, for the purpose of obtaining their degree, courses/laboratories offered by Study Programs other than their own. In such cases, the request is subject to approval by a dedicated committee, which assesses its consistency with the educational objectives described in the Academic Regulations (*Regolamento*) of the Study Program.

The *Credito Formativo Universitario* - *CFU* (**University Educational Credit - ECTS)** is the unit of measurement of the workload required in terms of learning activities. One credit conventionally corresponds to 25 hours of work, including both self-study/individual work and assisted teaching activities, meaning all educational activities in which the student interacts with the instructor (lectures, group exercises, laboratory activities, etc.).

1. First year

The first year of the Mobility Engineering degree program consists of 60 mandatory credits. The main reason is to prepare students from different undergraduate programs (e.g., Electrical Engineering, Mechanical Engineering, Management Engineering, etc.) in the key and basic concepts related to mobility and related infrastructure. Specifically, each of the six courses focuses on a different mobility-related macro-theme, including:

- Electric Systems for Mobility: electrical systems and components – 10 CFU;
- Data Science and Security for Mobility: data science and computer science – 10 CFU;
- Finance and Management of Infrastructure Investments: economics and finance – 10 CFU;

- Dynamics, Control and Diagnostics of Ground Transportation Systems: vehicle and infrastructure mechanics – 10 CFU;
- Transportation Planning: planning – 10 CFU;
- Safety for Mobility: Safety Systems – 10 CFU.

2. Second year

Topics related to mobility issues are required to complete the basic knowledge required of all students on the Degree Course (Degree Course). The remaining 20 credits are available to the student based on their primary interests and the many topics related to mobility.

However, the elective courses must respect a constraint: at least 5 credits between the Automation and Control for Mobility, Electric Measurements, or Communication Technologies for Mobility courses, so that the student can delve into at least one of these more technical topics

Interdisciplinary Programs

- **PoliMI Ambassador**

The PoliMI Ambassador programs are four advanced university-level training paths designed to create new professional profiles in Green Technologies, Smart Infrastructures, Inclusivity Design, and Creative Thinking. The objective is to foster the acquisition of:

- skills in specific areas consistent with the selected educational path;
- enabling digital technologies relevant to the profile;
- interdisciplinary tools and methods, and a systemic vision mindset;
- the ability to work in interdisciplinary and multi-sectoral contexts, developed through exposure—also in team settings—to case studies and challenges.

For a detailed description of the objectives of each PoliMI Ambassador program, please refer to the PoliMI Ambassador webpage.

Each educational path is developed throughout the *Laurea Magistrale* (equivalent to Master of Science) and defines, within 130 *Crediti Formativi Universitari* (University Educational Credits – ECTS), of which at least 10 must be extra credits, the minimum number of credits

required to obtain the selected *Laurea Magistrale* degree and, at the same time, to receive the PoliMI Ambassador certification in the selected field.

The student must acquire at least 30 *CFU* (ECTS) in educational activities relevant to the chosen PoliMI Ambassador profile, selected from two course tables listed in the *Regolamento Didattico del Corso di Studi* (Study Program Educational Rules) of their program. In particular, the student must obtain at least 10 CFU from the first table (Table A) and 20 CFU from the second (Table B), in accordance with the procedures described in the Study Program **Educational Rules**.

The "PoliMI Ambassador" certification will be included in the Diploma Supplement and will be officially recognized through the issuance of a specific digital badge.

Failure to earn the 10 extra *CFU* (ECTS) and the minimum 30 *CFU* (ECTS) in activities related to the Ambassador profile does not preclude the student from obtaining the *Laurea Magistrale* (Master of Science) degree.

What are the teaching methods?

Teaching and learning models

The educational model of the Politecnico di Milano includes five types of assisted teaching:

- Transmissive / Lecture-Based Teaching (Didattica trasmissiva/frontale – DT): the student listens to the delivery of content that will then be consolidated independently;
- Interactive / Participatory Teaching (Didattica interattiva/partecipativa - DI): the student, under guidance, is involved individually or in groups in carrying out or participating in an activity proposed by the instructor, also through the use of suitable digital tools;
- Laboratory-Based Teaching (Didattica laboratoriale - DL): the student is involved, individually or in groups, in a practical experience aimed at applying the concepts and methodologies presented by the instructor, typically with the aid of appropriate tools and equipment in computer or experimental laboratories;
- Project-Based Teaching (Didattica progettuale – DP): the student is involved, individually or in groups, in the development of a complex project or product, which is gradually enriched as awareness and the ability to use theoretical, technical, and metacognitive tools are acquired;
- Evaluation-Based Teaching (Didattica valutativa - DV): the student is directly involved in an evaluation or self-evaluation activity followed by appropriate feedback (quantitative or qualitative, and either named or anonymous).

1. First and Second Year

The study program was organized by developing specific courses, in particular:

- Data Science and Security for Mobility – 1 sem. I year
- Transportation Planning – 2 sem. 2nd year
- Energy and Emissions in Transportation Systems – 1 sem. 2nd year
- Mobility: Infrastructures and Services – 2 sem. 2nd year

A project in collaboration with the companies on the Advisory Board. The purpose of this choice arose from the need to immediately expose students to practical, real-world mobility issues through discussions with industry engineers. The courses are enriched with technical visits and seminars led by engineers from partner companies to combine theory with practice.

The following is the organization of the mandatory courses. However, where possible, other elective courses are offered.

First year

Year 1, Semester 1

- Electric Systems for Mobility: The course is structured primarily through classroom teaching (lectures and exercises). Educational visits to sponsoring companies, as well as seminars, are planned to complement the course content. A project involving group work is included. Assessment consists of a written test on the theoretical portion of the course, and a group presentation of the work completed (preceded by the submission of a written report). Assessment is individual.
- Data Science and Security for Mobility: The course is structured with classroom teaching (each lesson begins with an explanation of theoretical concepts, followed by an exercise in the Python programming language). Two group projects are scheduled during the semester (one with submission and presentation in November and one with submission and presentation in December). The first group project aims to familiarize students with Python by applying data science tools and methods; the second focuses on a case study in collaboration with one of the degree program's sponsoring companies. Assessment consists of a written theoretical exam and completed projects.
- Finance and Management of Infrastructure Investments: The course is taught through classroom instruction and is divided into two distinct modules. Assessment consists of a written exam covering theory and exercises.

Year 1, Semester 2

- Dynamics, Control, and Diagnostics of Ground Transportation Systems: The course is taught through classroom instruction (consisting of theoretical lectures and technical discussions), but assessment is entirely focused on the development of a project (group work) throughout the semester. There are several opportunities to review your work and receive advice and suggestions, and the final phase consists of a detailed report and a live presentation, which will be assessed along with the work completed.
- Transportation Planning: The course consists of classroom teaching (theoretical lectures), exercises to learn how to use useful software and tools, and seminars in collaboration with the degree program's sponsoring companies. Group work is also included, culminating in an oral presentation. Assessment is based on both the completed project and an individual oral exam on the course content.
- Safety in Mobility: The course consists of two separate modules, one at the beginning of the semester and the other during the final month. The first module (taught by Professor Zio) features theoretical lectures and practical exercises. The content of these is assessed in a written exam, consisting primarily of exercises. The mid-semester social gathering is noteworthy, as it strengthens the camaraderie and team spirit between the

students and their professor. The second module (taught by Professor Derudi) features theoretical lectures and is assessed through an individual oral exam.

Second year

Year 2, Semester 1 (mandatory courses)

- Energy and Emissions in Transportation Systems: The course, taught through classroom instruction, comprises mostly theoretical lectures and practical exercises. A group project is included, for which students must produce a detailed written report and an oral presentation, which will be assessed along with the written exam. The written exam consists of theoretical questions and exercises. Students who take the first exam can choose to " freeze " their grade and improve it in the second exam. The grade for the written exam will therefore be the higher of the two. The project grade, however, is individual and is based not only on the report and oral presentation, but also on some questions asked during the presentation.
- Ethics for Transportation: The course is structured through lectures and classroom workshops. In addition, seminars are held in collaboration with the degree program's sponsoring companies. Group work is required, consisting of the production of a report based on the classroom workshops, which will be evaluated. The remaining part of the evaluation consists of the production of an individual paper, based on one of the classroom seminars.

Year 2, Semester 1 (INF group courses)

- Automation and Control for Mobility: the course consists of lectures only, divided into various topics that will be the subject of a written exam.
- Communication Technologies for Mobility: The course consists primarily of lectures and practical exercises. Seminars with some of the degree program's sponsoring companies are also included. Assessment consists of a written exam (with both theoretical and practical components). The written exam may be supplemented with an individual oral exam (at the student's discretion). If not supplemented with the oral exam, the maximum grade is 27/30.

Year 2, Semester 1 (FREE group courses)

- Autonomous Vehicles: From a teaching perspective, the course consists of lectures designed to provide mostly discursive knowledge on the topics covered and exercises necessary for completing the assignment used as the sole assessment test. The latter can be completed either individually or in groups. Assessment is individual.
- Road Traffic and Safety: the course consists of lectures aimed at preparing for the oral exam and the group project, which is also part of the assessment.

- Railway Operations: The course is offered primarily to students in the Master of Science in Civil Engineering – Transport Infrastructure track, combined with the Railway Design module. The Railway Operations component consists of lectures and in-depth seminars with RFI. Numerous field trips to companies operating in the rail transport sector are planned. Assessment consists of an individual oral exam.
- Hybrid and Electric Vehicle: From a teaching perspective, the course consists of lectures and discussions on the topics covered, along with exercises necessary for completing the project, which serves as the sole assessment. The latter can only be completed in groups whose members receive the same assessment.
- Logistics and Freight Transportation: The course includes lectures and exercises to prepare students for the written exam and the group project. The project presentation and the written exam carry equal weight in the assessment.
- Railway Vehicle Design: The course includes both lectures and exercises. The lectures cover the topics covered in the written exam, while the exercises address the assignment, which can be completed individually or in groups. Assessment is individual in both cases.
- Sustainable Mobility Behavior and Policies: The course consists of lectures, exercises, and seminars. Group work is included, which forms part of an individual portfolio, which forms the basis for the oral exam, which is the assessment method.

Year 2, Semester 2 (mandatory course)

- Mobility: Infrastructures and Services: The course consists of theoretical lectures, each followed by a CEO talk in which CEOs and leading figures from the degree program's sponsoring companies present their experiences. Numerous review and support sessions are also provided for the group projects assigned to students at the beginning of the semester, which will then be an integral part of the final assessment. The final assessment consists of a written theoretical test and the submission and presentation of the group project. Numerous field trips to many of the degree program's sponsoring companies are planned.

Year 2, Semester 2 (FREE group courses)

- Network Analysis for Mobility and Transportation: The course is delivered through lectures divided into compartmentalized modules designed to prepare for the topics covered in the written exam. Part of the assessment also includes a group project on one of the course topics related to the analysis and design of mobility infrastructure.
- Public Transport Management: The course consists of lectures, practical exercises using the PTV Visum software, and numerous seminars and meetings with representatives of the degree program's partner companies related to the course topics. A field trip to Autoguidovie, one of the degree program's sponsors, is also planned. The course's CEO is the course's instructor. Assessment consists of a written theoretical exam and the

presentation of a group project to be completed during the semester. Assessment is based on a group, not an individual, evaluation.

Year 2, laboratory teaching (FREE group courses)

- LAB – Formula Student
- LAB – Motostudent
- LAB – Physis PEB

The Study Program participates in the initiative of laboratory courses dedicated to university student teams. Each team develops a racing vehicle specific to its category in compliance with the competition regulations. Within the competition, in addition to various performance tests, the project is evaluated from both an engineering perspective and the level of innovation and sustainability introduced. Students from the Mobility Engineering Study Program could support the team in these latter areas by participating in these laboratory activities.

What are the assessment methods?

Assessment methods and exam sessions

The assessment methods are described in the course syllabus (scheda dell'insegnamento) and are made available at the beginning of each academic year. By including a course in their Study Plan, students acknowledge and accept the related assessment methods.

Student performance is assessed through exam sessions held during the dedicated periods specified in the Academic Calendar (*Calendario Accademico*) and may also be evaluated through ongoing assessments (*valutazioni in itinere*) conducted during the semester in which the course is delivered.

For each academic year, there are five exam sessions scheduled for all courses. Specifically, two exam sessions take place at the end of the semester in which the course is taught, two at the end of the other semester, and one in September.

Ongoing assessment

Ongoing assessment may take place through various methods, such as written and/or oral and/or laboratory tests, projects, reports, assignments, and other types of activities assigned by the instructor, carried out either in class or independently, also through the use of digital and online tools.

Ongoing assessment based on two partial exams. For courses that include an ongoing assessment based on two partial exams, the tests are generally held during

the breaks in teaching activities specifically scheduled in the Academic Calendar. The date of the second exam coincides with that of the first exam session in the session immediately following the teaching semester. On that date, the student may take either the second partial exam or the regular *exam session*.

Other forms of ongoing assessment. Forms of ongoing assessment other than those described above may take place at any time during the teaching semester. For courses that include them, some assessed activities, clearly indicated in the course syllabus, may be mandatory or required in order to receive a full evaluation. Failure to participate in such activities may result in restrictions during the exam sessions, either in terms of grading or in the ability to take the exams.

Registration for exam sessions

In order to take part in an exam session, students must register via the Online Services within the specified deadlines. Exam registration is permitted only if the student is up to date with tuition fee payments and the course is included in his/herStudy Plan. If the regular registration deadline is missed, it is still possible to register until 11:59 PM on the day of the exam, subject to approval by the professor. Students who decide not to take the exam must cancel their registration no later than the day before the exam, except in cases of unforeseeable last-minute impediments.

The course's teachings, although they follow a standard structure and most of them are taught through face-to-face teaching, offer a mix of approaches: on the one hand, individual and on the other project-based: the degree course, in fact, includes various group projects that students manage independently and for which the course leaders (or their assistants) often offer teaching support.

Students are therefore encouraged to work in groups frequently, and a good study strategy is to always tackle learning projects with the same group of people, which can foster camaraderie and collaboration starting in the first semester. The group thus becomes not only a tool for completing assigned projects in some courses, but also an opportunity to study theory together and complete exercises in other learning components that do not inherently require a "group" approach.

Furthermore, in recent years, there have been several examples of cross-disciplinary collaboration among students, such as sharing notes, useful information, suggestions, and advice for choosing elective courses: in short, a sort of mutual support and peer-to-peer counselling.

This approach has also proven particularly useful in some cases where a course leader has not provided a satisfactory amount of teaching materials, situations in which students from higher years or who had already taken the exam often reassured the other students either with additional materials from previous years or with their own materials (such as notes, tde resolutions, etc.).

There are no particularly demanding exams, although some courses are slightly more challenging. Conversely, some courses, especially those with a strong group-work component, are generally easy to pass.

What does the final exam consist of?

On the website of the School of Industrial and Information Engineering, under the section Bachelor's and Master's Degree Exams, the following resources are available:

- The regulations for Bachelor's and Master's degree exams, along with the *Regolamenti Integrativi* (supplementary regulations) for each *Corso di Studio* (Study Program);
- Information on how the examination sessions are conducted, key deadlines, and the procedures for submitting the thesis;
- Thesis templates: formats for traditional and article-style theses, as well as the executive summary template,which must be submitted together with the thesis in case a *Controrelatore* (Examiner)is required.

The final exam consists of the presentation and discussion of the final thesis, a final project that demonstrates the skills acquired by the student throughout their studies. Through the analysis and resolution of a problem of interest in one of the areas of Electrical Engineering, the thesis may have a theoretical, experimental, or design approach, and represents an opportunity to independently apply practical and theoretical knowledge, often in research or innovation contexts.

In developing the thesis, the student is supported by an academic supervisor (chosen by the student), who proposes the topics to be addressed and evaluates the student's proposed solutions. Depending on the complexity of the work, the supervisor decides whether or not to request an examiner who can thoroughly evaluate the thesis text, whether it be academic or business-related.

In the case of theses with examiner, writing the " Extended Summary" (Executive Summary) is also mandatory. For theses with examiner, in addition to the thesis in " classic" format (traditional format), the writing of the thesis in "article" format ("journal paper") is also permitted. Writing the thesis in this format is granted upon proposal of the supervisor, subject to the favorable opinion of the Study program coordinator.

To choose the topic of the thesis, the student can contact the professors directly or consult the thesis proposals published on the " Bacheca Tesi " platform (accessible from the personal page).

Can I get help with my studies?

Tutoring

In order to guide and support students throughout their studies, particularly during the first three years, the School of Industrial and Information Engineering offers various tutoring opportunities, with the aim of providing each student with the most suitable support for their needs. The approach includes peer-to-peer tutoring services, activated on demand based on student requests, as well as more traditional tutoring services offered on fixed dates and times.

- **Learn how to Learn (Information and guidance tutoring)**

Targeted at first-year students who scored below 60 on the TOL, this is an optional program consisting of three thematic webinars designed to help students immediately identify effective strategies for managing typical university situations, such as attending lectures, studying independently, managing study time, and handling distractions.
To complement the live component, asynchronous activities are provided to deepen the topics addressed during the webinars.
The program is delivered in September (over the course of one week), before the start of classes. Interested students receive a notification email inviting them to participate.

- **Peer to Peer Tutoring**

In this form of tutoring, experienced student tutors provide support, either individually or in small groups of 3–4 students, on the core courses taught during the first two years of all *Corsi di Laurea Triennale*(Bachelor's Laurea Programs). Students may request tutoring for up to two courses per semester.
Those who wish to request a tutor must apply through the “Peer-to-Peer Tutoring” platform available on their Online Services.
For further information, please contact: tutorato-ingegneria@polimi.it.

- **Tutoring for first-year students**

For many of the first-year courses of the *Bachelor's degree program*, tutoring sessions are available and led by PhD students or experienced instructors.
The calendars are available on the School's website at the page: Calendario Tutorato Matricole (*First-Year Tutoring Calendar*).

- **Specific tutoring activities**

The School also promotes specific tutoring initiatives:

Equalization peer-to-peer tutoring: this service is intended for students coming from Bachelor's degrees not strictly aligned with the chosen *Master's degree program*, or for international students. More experienced student tutors provide support, either individually or in small groups of 3–4 students, on courses within the Master's *Study Programs*.

Tutoring in support of specific courses: tutoring sessions held by PhD students and experienced instructors on selected courses from various study programs, also based on student feedback.
The schedule for these activities is available on the website at: *Calendario tutorato specifico* (*Specific Tutoring Calendar*).

Polimi Open Knowledge (POK)

POK (Polimi Open Knowledge) is the first Italian university MOOC (Massive Open Online Courses) platform, offering free online courses open to everyone. The main objective of the platform is to support students, not only from Politecnico di Milano, throughout their university and professional journey: from high school to university, from the *Bachelor's degree* to the *Master's degree*, and from university to the job market.
In addition, many other courses are available for teachers, researchers, professionals, and the general public.

First-year students who wish to strengthen their foundational knowledge in mathematics and physics are encouraged to follow the modules: Introduzione alla matematica per l'università: Pre-Calculus, *Introduction to Experimental Physics: Electromagnetism, Optics, Modern Physics*.

Since the degree program is characterized by numerous group projects, many students naturally tend to manage their study progress in a consistent and linear manner, being encouraged to work together to hand in projects by the end of the semester or, at the very least, before the start of the next semester. Time management is therefore individual , but largely dictated by the courses that include group work. The teaching load is not excessively high in any of the courses included in the Degree Course, leading students not to impose radical changes on their study method developed during the three-year studies.

Are there any extracurricular activities?

Passion in Action

"Passion in Action" is the catalogue of open-participation educational activities offered by Politecnico di Milano to its students, aimed at fostering the development of transversal skills, soft and social skills, and at encouraging/facilitating a personalized enrichment of each student's personal, cultural, and professional background.
Those who are interested can take advantage of this opportunity and choose which activities to attend, exploring different subjects according to their interests and personal inclinations.

Students who participate in *Passion in Action* may register for any activity in the catalogue, regardless of its thematic relevance to their *study plan*, provided that any specific prerequisites for individual activities are met.
The skills and competencies acquired are recognized through the awarding of a digital badge and will be reported in the *Diploma Supplement*.

The catalogue is updated regularly. Since the educational modules are activated asynchronously with respect to the semesters, interested students are advised to check the *Passion in Action* page periodically.

Student Associations

Student associations are organizations formed by students with the aim of promoting cultural, technical, social, and recreational activities, and creating opportunities for personal and professional growth within the academic environment.
Participating in a student association allows for greater engagement in university life, making the academic experience more dynamic and stimulating. It also fosters the development of transversal skills such as leadership and teamwork, as well as the expansion of one's network, valuable both during university and in professional life.
At Politecnico di Milano, several student associations are active, each with different goals and areas of interest. The full list is available at: *Student Associations*.

Unlike other degree programs (such as Mathematical Engineering, Biomedical Engineering, and Physics), the Mobility Engineering program does not have a dedicated student association, especially since it is a new program. Nonetheless, numerous initiatives, some of which are supported by the university, focus on topics related to the study program, some of which are in collaboration with professors of the study program. Worthy of note in this regard is the SIT PoliMi

(Social Innovation Team) student association, which has hosted several events and seminars on sustainable mobility. Students have also had the opportunity to interact with non-student associations, many of which are student-led, and work in the field of sustainable mobility. Organizations such as “AdessoBasta” facilitated participation in several meetings as part of the road safety campaign in September 2024.

The study program benefits from a constant stream of extracurricular activities related to the program itself. These include numerous events and seminars on mobility, sustainable mobility, and transportation, organized by the university, the school, departments, individual faculty, and student associations. Also noteworthy is the Summer School "The Coexistence of Artificial Intelligence and Me, " held for the first time in the summer of 2024, which has attracted interest not only from students enrolled in the program but also from recent graduates and alumni.

Can I go and study abroad for a period?

Students who wish to take part in an exchange experience must apply through one of the two international mobility calls, which are published in November and April. The University's Mobility Call covers various types of international experiences: simple exchange (1 or 2 semesters) in EU and non-EU countries, Double Degree programs, and Special Programs for students enrolled in specific Study Programs (e.g. Alliance4Tech).

Due to procedural timelines, interested students must apply the year before the planned mobility period.
The choice of possible exchange destinations must be made at the same time as submitting the application to the mobility call. Students are therefore encouraged to gather all the necessary information about each selected destination, out of respect for all applicants.

In fact, declining an assigned destination due to inadequate research into the educational offer results in a lost opportunity, not only for the student who withdraws, but also for other students who could have taken advantage of that placement.

Once they have applied to the call, candidates must carefully follow the deadlines, monitor the rankings, and confirm or decline their interest in the assigned destination, if any. Dates vary for each call, but this phase of the process generally takes place between January and March for the first call, and between May and July for the second call.

Only after the candidate has confirmed the assigned destination, the International Mobility Unit will proceed with the official nomination of each student to the selected host institution. Delays in confirming the destination will result in exclusion from the exchange program.

To view the list of available destinations, students can refer to:

- the section of the Polimi website dedicated to the mapping of all partner universities. By filtering by School and Study Program, students can access useful information about each destination;
- the Exchange your Mind section of the Polimi website, which collects testimonials, useful information, presentations, and in-depth materials on the topic.

An international experience is valuable in its entirety, it allows students to discover new countries, cultures, people, and languages. These aspects should be taken into account when choosing a destination.
At the same time, it is important to remember that it is not always possible to obtain one of the top-listed choices; therefore, each option included in the list of preferred destinations should be selected carefully and thoughtfully.

Students who independently organize their period of study abroad are referred to as *"Free Movers."* This type of mobility is not part of any structured exchange program organized by Politecnico di Milano, such as Erasmus.
Since it is not a structured and formal program, *Free Mover* candidates must take care of all aspects of their stay abroad on their own (contact with the host university, meals, accommodation, health insurance, etc.), and no financial support is provided for expenses related to the mobility period.
The activities eligible for recognition within a *Free Mover* experience include course attendance or thesis work, with different requirements applying to the application and approval process by the Study Program/thesis supervisor.
The application for a *Free Mover* mobility may be approved by the student's *Corso di Studi* (Study Program) only if certain criteria are met. These include an evaluation of the student's CV and an assessment of the reputation of the host institution where the mobility is intended to take place. The specific criteria are detailed below:
• The host institution for the mobility cannot be one for which there are existing exchange agreements with Politecnico di Milano for the School to which the student is enrolled;
• The host institution must be recognized as a quality institution within the student's Study Program, and applicants must describe and demonstrate the validity of the proposed institution (a high ranking position in international university rankings can be one criterion, although not the only one);
• The Free Mover candidate must have a specific weighted average exam grade of at least 24 out of 30.
Students enrolled in a Degree Program who have already earned at least 60 University Educational Credits (ECTS) in their academic record may apply for a *Free Mover* mobility.
Similarly to the institutional mobility organized by Politecnico di Milano, Free Mover mobility is not permitted during the first semester of the Master's degree. However, students may submit their application during their first semester for mobility periods in subsequent semesters.

The Study Program is trying to strengthen international relationships to allow students of the course to gain mobility experience in other universities.

Can I do an internship?

The stage, also referred to as internship (*tirocinio*), is an educational experience in the professional world, allowing students to put into practice the skills acquired during their academic path, and to guide them toward making informed future career choices.

It can take place either in Italy or abroad, in companies, professional firms, foreign universities, or public and private research institutions.

The stage is considered as **curricular** when it is aimed at students. Specifically, it can be:

- *curriculare obbligatorio* (compulsory curricular), linked to the acquisition of University Educational Credits (ECTS) and included in the Study Plan;
- *curriculare opzionale* (elective curricular), linked to the acquisition of University Educational Credits (ECTS) and included in the Study Plan at the student's discretion;
- *curriculare facoltativo* (curricular but voluntary), not involving the acquisition of ECTS and not included in the Study Plan, with a maximum duration of 12 months, to be completed before the thesis defense.

The extracurricular stage is instead intended for recent graduates who are not enrolled in any other university Study Program, and may last up to a maximum of 6 months.
More information: *Stage per laureati* (Internships for graduates).

Students interested in a curricular stage, whether *obbligatorio*, opzionale or *facoltativo*, can visit the *Stage curricolari* (Curricular Internships) webpage for more information about:

- how to find internship opportunities (which is the responsibility of the student);
- the documents that the host organization must request from Politecnico di Milano (*Convenzione di Tirocinio* - Internship Agreement and *Progetto Formativo* – SAT – Internship Academic Structure).

Internship and Master's Degree Thesis

The optional curricular internship and the *Laurea Magistrale* (Master of Science) thesis are two separate activities. The first is optional and does not allow for the acquisition of University Educational Credits (ECTS), while the second is mandatory and involves the acquisition of credits.

It is not excluded that the activity carried out during an optional curricular internship could lead to a Master's Degree thesis. However, for this to be possible, the research activity at an external organization must be carried out under the supervision of an academic advisor from Politecnico di Milano, who must agree from the beginning of the internship on the research objectives and methodologies, and must supervise the activities throughout their execution. It is the student's responsibility to contact an academic advisor before the internship begins.

Thanks to the presence of the Advisory Board, students enrolled in the study program have the opportunity to carry out internships at partner companies, training activities that very often lead to the student being hired.

How can I express my opinion?

Students' opinions are important, and Politecnico di Milano provides several tools through which students can express their views.

OPIS Questionnaire

The *OPIS questionnaire* is the official tool used to collect students' opinions on teaching. The questionnaires are anonymous and results are processed in aggregate form.

The outcomes of these questionnaires are essential for instructors and *the* Study Programs Councils, as they offer insight into students' thoughtful and honest feedback, helping to improve both the educational offer and teaching methods. Once a year, every Study Program Council is required to reflect on its educational path, starting also from the results of these questionnaires. Student Representatives are involved in this process, collaborating in the definition of possible improvement actions.

For this reason, it is important that students express their opinions responsibly, in the interest of the entire academic community of students and faculty.

Students are asked to give their opinion on every course they attended during the semester, by answering a questionnaire that gives students the opportunity to directly contribute to the improvement of the quality of education. For each course, the questionnaire becomes available approximately two-thirds into each semester, and its completion is mandatory before registering for exam sessions for the first time.

Graduating Students' Questionnaire

During the final year of the Study Program, students are also required to give their opinion on the entire educational path. Completing the questionnaire is mandatory in order to register for the Bachelor's/Master's Degree graduation session (Graduating Students' Questionnaire). In this survey, students are asked to provide feedback on several aspects, including the organization of teaching, specific course content, facilities, internships, international mobility opportunities, and the final examination.

Student Services Satisfaction Questionnaire

This questionnaire is mandatory for registration to the first exam session of the academic year and is intended only for regular students in the final year of their Study Program. The questions concern the services offered to students, including, for example: enrolment procedures, Study Plan submission, exam registration, tuition fees, student offices, ICT, libraries, dining services, and communication.

How can I contribute?

Role of Student Representatives

Student representatives play a key role in ensuring the proper and transparent functioning of the University's governing bodies, where they participate to bring the students' perspective. They are elected every two years and serve not only as points of reference for students in various aspects of university life, but also contribute concrete proposals to improve the student experience.

The **Senato Accademico** (*Academic Senate*) is the body responsible for guiding and planning the University's development, with particular focus on teaching and research, and oversees the overall proper functioning of the institution. The Consiglio di amministrazione (Board of Directors), on the other hand, defines the long-term financial planning based on the proposals and opinions of the Senate. Therefore, the student representatives in these bodies are involved in decisions that affect the entire University.

The Joint Student-Professor Committees (Commissione paritetica) of each of the four Schools (3I – Industrial and Information Engineering; ICAT – Civil, Environmental and Territorial Engineering; AUIC – Architecture, Urban Planning and Construction Engineering; Design) monitor the educational offer, the quality of teaching and student services, and make proposals to enhance them. Depending on the School, some or all of the representatives on the Joint Student-Professor Committee also sit on the School Council, which coordinates the study programs and provides general guidance to the school.

The members of the Academic Senate, the Board of Directors, and the Joint Student-Professor Committees form the **Student Council**, a body where discussions take place on topics addressed within the various governing bodies. At the beginning of their term, they also elect the student representatives to the *Nucleo di Valutazione* (*Evaluation Committee*), the *Comitato Unico di Garanzia* (*Guarantee Committee*), and the Sports Committee.

Each **Study Program** has a certain number of student representatives (the number varies depending on the number of enrolled students). Student representatives are full members of the **Study Program Council**, the body responsible for defining the Degree Program and Educational Rules for each Study Program. In this context, student representatives contribute to defining how teaching is delivered, analyzing the effectiveness of courses, organizing the study plan, and acting as spokespersons for their fellow students by reporting any issues related to teaching.

If you want to learn more about the role of representatives, as well as the different representation lists present at the Politecnico, we invite you to visit the page **Polimi – Rappresentanti e Associazioni**.

Work with Us as a Tutor

Politecnico di Milano offers students the opportunity to carry out tutoring activities as part of paid collaborations within the University:

- If you are a Master's degree student, you can support teaching through tutoring activities.
- If you are a Bachelor's degree student, you can take part in *Peer-to-Peer* tutoring activities, assisting fellow students along their academic path.

These collaborations are assigned through specific calls for application and are reserved for students who meet certain academic and financial requirements. Compensation and the number of working hours vary depending on the assigned role.

For more details on requirements, application procedures, and deadlines, visit the page: Polimi - Paid Collaborations.

What's next?

The Career Service is the professional guidance and placement service of the Politecnico di Milano. It works in collaboration with employers (both private and public companies) and with the Study Programs Councils to offer students, starting from their early academic years, a wide range of initiatives aimed at bringing them closer to the professional world. The goal is to broaden their perspective by presenting them with future opportunities in terms of promising sectors and the most in-demand roles and skills.

Among the services offered by the Career Service:

- **Personalised support programs** with a *Career Advisor*, providing tips for preparing an effective CV, simulating job interviews, and more. Discover more in the video resources.
- **Special orientation pathways** to explore professional roles in innovation (Am I an Innovator?) across a variety of settings, from roles in established companies to positions involved in launching new start-ups.
- **Support in identifying internship opportunities**, both before and after graduation (*Internships*), as well as assistance in setting them up and formalising them through an *Internship Advisor*.
- **Organisation of orientation and mentoring events** with Italian and international companies (e.g. roundtables, career talks, career competitions, company tours), regularly posted on the website: [**Career Service**].

Contacts

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Student Representatives: rappresentativestudenti-ccsmob@polimi.it

Teaching Secretariat: didattica-dmec@polimi.it

Useful links

Website of the School of Industrial and Information Engineering

Study Programme Website

WeBeeP Channel of the Study Course

Student Office: Online counter

Campus and Services: Equal Opportunities and Inclusion , Psychological Well-being