



POLITECNICO
MILANO 1863

School of Industrial and Information Engineering

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

What does a telecommunication engineer do?

What do you study?

What are the teaching methods?

What are the assessment methods?

What does the final exam consist of?

Can I get help with my studies?

Are there any extracurricular activities?

Can I go and study abroad for a period?

Can I do an internship?

How can I express my opinion?

How can I contribute?

What's next?

Contacts



What does a telecommunication engineer do?

Telecommunication engineers work in various areas of the Information and Communication Technology (ICT) sector, thanks to their solid methodological knowledge, both fundamental and interdisciplinary, which allows them to master modern communication and information technologies. They are able to design and manage complex and structured communication networks such as the Internet, the Internet of Things, future mobile radio networks (5G, 6G), and satellite systems. They can design devices, systems, and technologies for information transmission (managing terrestrial radio, satellite, and fiber optic links), and analyze and process data (for example, to optimally transmit audio and video signals, identify deep fakes, or extract useful information from satellite imagery). Telecommunication engineers are also able to design services and applications integrated with communications networks. In general, telecommunication engineers are able to manage all technological components for information transfer.



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.).

The Study Program in Telecommunication Engineering trains engineers with a multidisciplinary background capable of mastering the various methodologies for the design and implementation of remote information transfer systems. It provides advanced skills in four macro-areas: the design and implementation of information transmission devices; the design, implementation, and optimization of technologies for communication systems and media; the digital processing and characterization of multimedia signals (audio, video, images); and the design/management of telecommunication networks.

First year

First-year courses aim to provide methodological/foundational skills in the four macro-areas of telecommunications: signal theory, applied electromagnetism, transmission systems, and telecommunication networks. The first-year program also includes several specialization



courses in the telecommunication area of interest or in the areas related to telecommunications.

If necessary and depending on the background acquired during the three-year 1st-level degree (*Bachelor of Science programme*), it is possible to fill any gaps in previous skills through curricular equalization courses.

Second year

The second year is dedicated to completing the preparation with specialization in multiple specific sub-areas of the telecommunications ecosystem such as:

- telecommunication networks and internet engineering: design and management of architectures and services for the Internet and the Internet of Things, optical networks, satellite networks and next-generation mobile radio networks, cryptography and network security;
- signal theory: remote sensing of the Earth and analysis of multimedia data and signals (video, images, audio);
- applied electromagnetism: characterization of electromagnetic signal propagation in guided media and in air, design of optical and electronic devices and components for remote information transmission ;
- communication systems: modulation and coding of signals in optical and radio communication systems, source and channel coding, classical and quantum communication systems.

The skills and abilities developed by students are put into practice at the end of the second year in the development of their thesis work, often carried out in collaboration with companies and research institutions in the sector.

The two-year course also teaches problem-solving and teamwork skills through laboratory activities included in multiple courses, including a mandatory 3 CFU course specifically designed for this teaching method.

The training program currently includes five Pre-Approved Study Plans (PSPA):

- Z2A – Signals and Data Analysis;
- Z2B – Communication Networks and Internet;
- Z2C – Data Communications;
- Z2D – Internet Engineering;
- Z2E – Microwaves and Photonics.



The courses on the Degree Program (Manifesto degli Studi) may be mandatory for one or more PSPAs and optional for other PSPAs.

Within each PSPA, the choices of individual courses are organized in such a way as to provide a study plan consistent with the chosen profile and in compliance with the training requirements indicated in the Study Program Educational Rules.

Students have the option of compiling an autonomous study plan, which does not comply with the constraints of any PSPA, but is consistent with the general requirements of the Degree Program (Manifesto degli Studi). Students intending to submit an independent study plan, including courses not included in the aforementioned teaching regulations, are encouraged to contact the members of the Study Plan Committee in advance for suggestions and guidance (contact details are available on the CCS website: <https://www.ccstlc.polimi.it>).

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.

The Study Program in Telecommunication Engineering joins in particular in the Ambassador programs in Green Technologies and Smart Infrastructures.



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).

Lecture-based teaching is assessed through a written and/or oral exam at the end of the course. Interactive/participatory and evaluative teaching methods typically increase the final grade based on tests during class.

The evaluation of laboratory and project-based teaching typically relies on the completion of homeworks and/or tests proposed during class activity.

Laboratories play a fundamental role in the Telecommunication Engineering study program, allowing students to apply the theory learned in class and develop essential practical skills for a comprehensive and employable preparation. Attendance is often not mandatory, but participating in these activities is highly recommended. It's a unique opportunity to consolidate the concepts learned during lectures. To be prepared for the lectures and workshops, it is essential to have a general understanding of the topic being covered so as to follow and participate effectively.



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/her Study 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 courses offered within the Study Program in Telecommunication Engineering aim to develop theoretical and practical skills regarding the methodologies and technologies used in the world of telecommunications, through a varied teaching approach, based on theoretical lectures, numerical and practical exercises, computer laboratory sessions, projects and experimental works.

Assessment methods are designed by the individual teachers in accordance to the Dublin descriptors adopted at European level, which include the acquisition of knowledge and understanding, the ability to apply knowledge and understanding, independent judgment, communication skills, and learning ability. For each course, the Course Syllabus provides details of the specific learning objectives pursued, with reference to the aforementioned descriptive parameters.

While each course has its own specific characteristics, the courses include assessment procedures that reflect this approach through one or more of the following forms of assessment: 1) written exam, which involves completing numerical exercises to test the student's ability to apply the knowledge acquired in practice, and/or closed or open-ended questions to verify the assimilation of theoretical concepts; 2) oral exam, generally focused on the presentation of theoretical topics and/or the completion of short numerical exercises to also test the student's ability to present and organize concepts in a logical manner; 3) individual or group project, in which the student completes (independently or in collaboration with other students) a task assigned by the teacher, who then evaluates the student's work, generally through an oral exam, a written report, or analysis of the computer code implemented by the student.

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 Telecommunication Engineering study program concludes with a final exam (equivalent to 17 credits) consisting of a scientific project and requiring significant commitment under the supervision of an academic and/or industrial tutor.

Two alternative types of final exams are available: with or without an examiner. These options increase the degree grade up to 7/110 or 4/110, respectively. For theses with an examiner, the thesis must feature an innovative scientific contribution compared to the state of the art. Before the thesis defence during the final exam, the manuscript is submitted to an examiner for evaluation.



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](#).

Some courses offer tutoring, even outside of regular classroom activities, and are generally provided by doctoral students. This activity aims to provide students with a guidance on studying and completing the various activities undertaken in the course. Currently, the following courses offer tutoring:

- Fundamentals of electromagnetic fields;
- Fundamentals of communication networks;
- Fundamentals of signals and transmission;
- Lab experience in communication networks;
- Lab experience in data communications;
- Lab experience in microwaves and optics;
- Lab experience in signals and data analysis;
- Network measurements and data analysis lab.

Other courses (for example laboratory courses) require the presence of a tutor in the classroom during regular teaching activities.



In some cases, depending on the BSc study program and previous studies, students may be assigned specific courses to fill any gaps in core telecommunication subjects (telecommunication networks, signals and transmission systems, electromagnetic fields). Students assigned curricular courses are strongly advised to fill these gaps as quickly as possible to maximize their learning of the topics covered in other, more specialized courses. Furthermore, starting from academic year 2025/26, these courses will be taught in both semesters using a hybrid format, incorporating MOOCs with pre-recorded videos to present theoretical topics and classroom exercises/workshops. Students are also encouraged to contact the instructors in charge of the required courses to optimize their study of the relevant topics, consistent with their specific prior studies.

At the beginning of each semester, the Study Program offers an orientation and tutoring session, called Lesson 0, led by the Study Program Coordinator and his/her delegates, in collaboration with the student representatives. This session introduces the University's teaching bodies (Schools and Study Program Council), their respective regulations, student services, the Study Program organizational chart, etc. This session aims to introduce all new students to the dynamics of the University and the Study Program and to provide useful information for resolving small and large problems that may arise during their academic career.

Teaching materials (in addition to the bibliography included in the detailed course syllabus) are uploaded by instructors to WeBeep before or after classes, at their discretion. They may include lecture recordings, slides, exam papers from previous academic years, with or without solutions, exercises completed in class or supplementary, in-depth readings, and any useful tools for laboratory activities.

Students generally agree that teachers and tutors are available to listen, clarify doubts, and explore curiosities. However, what is truly crucial is the passion, enthusiasm and desire of the teachers in presenting their subject matter, making each lesson an opportunity to learn and be inspired.



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](#).

The Telecommunication Engineering Study Program is particularly active in offering extracurricular activities, recognizing the importance of these experiences in completing and strengthening students' curricular education. Integrating technical skills with transversal abilities, such as communication, collaboration, and problem-solving, can significantly enhance

students' preparation, training them to face the challenges of an ever-evolving professional world.

The Telecommunication Engineering Study Program recommends and encourages students to attend soft skills courses at least once a year, integrating their technical training with the interpersonal and management skills essential for their future careers.

Students also believe that developing soft skills is a fundamental aspect of a telecommunication engineer's personal and professional growth.

The Telecommunication Engineering Association (TEA) is a student association active since May 2024. Its aim is to create a strong community among Telecommunication Engineering students, encouraging participation in university and community life.

By organizing events, seminars with researchers and doctoral students, meetings with companies, and visits to Politecnico di Milano laboratories, TEA offers opportunities for academic and professional growth. It also promotes social opportunities, such as aperitifs with former students who share their post-graduate work experiences and informal gatherings for students to spend time together.

TEA strikes the right balance between university and social life, creating an inclusive environment where every student can feel part of an active and dynamic network.

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 Telecommunication Engineering Study Program manages a moderate number of international mobility (both incoming and outgoing) students. Incoming and outgoing students have been relatively stable over the past few academic years and are balanced, averaging around 15-20 students per year. Double-degree agreements, however, are more skewed toward incoming students. Regarding the destinations of outgoing students, the most popular countries are Spain, France, and Germany. Double-degree agreements, although long-standing, have only been fully utilized in France in the last year. Previously, many students have withdrawn from the double degree program despite their applications being accepted. Incoming mobility students come primarily from Spain, France, and Portugal, while double-degree students come from China and France.



Management of outgoing students includes a meeting to present mobility opportunities once the first call for applications is published (usually in late November or early December). This meeting is organized in collaboration with the Exchange Offices of the Politecnico di Milano. This meeting provides all the information necessary to properly complete the application and advises interested students in selecting a foreign institution. Students selected by the Exchange Office then interact with their two advisors to develop their Learning Agreement, the document listing the courses they will take at the host institution and those that will be validated in their study plan at the Politecnico di Milano upon their return from the mobility period. Students must then update their study plan by including the selected courses and requesting their validation if they have an autonomous plan. All bureaucratic issues related to the documentation required for mobility are referred to the appropriate international mobility offices at the Politecnico di Milano. To assist students in completing a proper Learning Agreement, a document has been prepared listing the courses at the Politecnico di Milano and those at many previously approved foreign institutions. If the mobility period also includes thesis work, the student must indicate in the Learning Agreement the thesis topic and, if possible, the internal supervisor, who will then act as official supervisor.



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.



Currently, it is not possible to include either compulsory or elective internships in the study plan. However, interested students may undertake voluntary (curriculare facoltativo) internships, which will then be reported in the Diploma Supplement. This option is typically used when the thesis work (or part of it) is carried out in a company or abroad.

The Study Program is committed to encouraging numerous companies in the telecommunication sector to open internship/traineeship positions, in order to provide more options for students interested in carrying out part of their thesis work in companies.



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](#)].

To support students' future career choices, the study program offers various orientation initiatives, aimed at encouraging more informed decisions regarding the world of work and advanced university education. These initiatives include project-based learning activities, developed in collaboration with foreign companies and universities, the periodic organization of thematic seminars with the participation of representatives from the industrial world, and curricular and non-curricular learning activities geared towards preparing for academic research.

Current orientation activities are as follows:

- information technology sectors. Speakers present advanced technical topics in an accessible way, illustrate the most innovative technologies, and introduce their companies. Students can participate in discussions, ask questions, and network with professionals;



- **Advisory Board:** Made up of experts and professionals in the telecommunication sector, it serves as a point of reference for discussion, updating the program offerings and graduate profiles, and obtaining concrete advice based on direct experience. It also helps develop initiatives that bring academia and industry closer together;
- **Adopt a Course:** The initiative involves Advisory Board companies and department laboratories within curricular courses. It includes experimental laboratory and design activities in collaboration with companies. Students, together with faculty and company tutors, define project topics, develop them under joint supervision, and present the results in a final workshop with company researchers.

The TEA (Telecommunication Engineering Association) offers a series of events designed to support students on their journey to the world of work. Among these, meetings with former students play a key role, sharing firsthand experiences, practical advice, and strategies for navigating the transition from university to a professional career.

In addition to these initiatives, TEA organizes visits to telecommunication companies, offering students the opportunity to gain a firsthand understanding of the working environment and activities of a telecommunication engineer. These experiences allow them to explore the technologies employed, understand operational processes, and interact with industry professionals, who offer valuable insights into their career paths and the skills required by the market.

These initiatives offer an opportunity to gain clarification, dispel any doubts, and gain greater awareness of the opportunities and challenges of the world of work. Thanks to direct contact with those who have already faced this transition phase, students can prepare for their professional future with greater confidence, maximizing their academic achievement and broadening their career prospects.



Contacts

Coordinator/President of the Study Programme: Carlo Riva

Study Plans: Arnaldo Spalvieri

Admissions: Paolo Martelli, Carlo Riva, Matteo Cesana

Graduation/Final exam: Claudio Prati, Marco Marcon

Transfers and programme changes: Paolo Martelli

International Mobility: Alberto Gatto, Paolo Bestagini

Orientation: Maurizio Magarini

Tutoring: Carlo Riva, Matteo Cesana

Internship: Stefano Bregni

Student Representatives: rappresentantistudenti-ccstelecomunicazioni@polimi.it

Teaching Secretary: Elisa Vergani

Useful links

Website of the [School of Industrial and Information Engineering](#)

Website of the Study Programme: [Telecommunication Engineering](#)

WeBeeP Channel of [Telecommunication Engineering](#)

LinkedIn page of [Telecommunication Engineering](#)

YouTube Channel of [Telecommunication Engineering](#)

Student Office: [Online counter](#)

Campus and Services: [Equal Opportunities and Inclusion](#), [Psychological Well-being](#)