



POLITECNICO
MILANO 1863

School of Industrial and Information Engineering

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

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What does an agricultural engineer do?

Autonomous tractors, drones for field monitoring, robots for feeding animals, cleaning cubicles, and automatic milking are just some of the technologies adopted today in agriculture. We are indeed witnessing a revolution in the way we conceive of agricultural and agro-industrial production systems, which are now required to increase production while remaining environmentally, economically, and socially sustainable, and ensuring product quality and traceability. Those working in the agricultural and agro-industrial sector must therefore be able to maximize all that technology offers to improve sustainability. Agricultural engineers are skilled in designing and managing agricultural and agro-industrial production systems, drawing on a solid foundation in engineering subjects (mechanics, control theory, process management, etc.), which allows them to understand, manage, and best utilize modern technologies. They also possess a basic understanding of agricultural sciences, which is essential for managing agricultural and agro-industrial systems and interacting effectively with industry experts. Agricultural engineers are skilled in managing production systems and new technologies for fields and livestock farming, optimizing yields and animal welfare, while minimizing consumption, waste production, and environmental impacts. They are skilled in designing systems based on ground- and aerial robots for crop monitoring and targeted field interventions (for example, for biological pest control or to optimize the use of pesticides), both remotely and autonomously. They are skilled in designing systems for collecting and processing large amounts of heterogeneous data, such as from weather stations, satellites, field sensors, and agricultural vehicles. They are skilled in integrating sensor networks to measure various parameters, such as climate conditions, plant health, and animal vital signs. They are skilled in designing, in collaboration with agronomists, solutions to support decisions regarding irrigation procedures to optimize the use of water resources, predictive maintenance policies for agricultural fleets, and pesticide application. He/she is skilled in designing systems to ensure product traceability and quality, and to improve the efficiency and safety of supply chain processes. He/she is experienced in managing supply chain issues, risk assessment, and the planning and management of agro-industrial production.





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

During the first semester, students undertake a training program that varies based on their previous three-year degree course, in order to acquire the knowledge essential for the specialized training of agricultural engineers.

Students from an engineering curriculum acquire basic knowledge related to animal and plant primary production, biochemistry, microbiology and livestock breeding.

Students with a non-engineering background acquire basic engineering knowledge, linked to the fundamentals of control theory and computer science, advanced mathematical analysis and applied physics.



Differentiation in the first semester is essential to establish a common knowledge base for all students. For students with an engineering background, basic knowledge of agriculture is essential to understanding aspects related to primary production principles and their impact on safety. For students with an agricultural background, acquiring engineering knowledge and skills is essential for understanding "Smart Agriculture" technologies.

Furthermore, three different tracks have been developed for engineering students, taking into account the specifics of their training. Specifically, one track, called AGE, is designed for engineering graduates who have neither control theory nor mechanical systems modeling in their previous curriculum; one, called AGM, is for engineering graduates who have no control theory knowledge in their previous curriculum but have knowledge of mechanical systems modeling; and one, called AGA, is for all engineering graduates who do not fall into the previous categories.

The second semester of the first year is dedicated to acquiring ICT skills, particularly in automation and robotics techniques, Big Data Analytics methods and applications, and artificial intelligence. The learning objectives of the second semester also include acquiring knowledge of materials engineering applied to precision agriculture.

2. Second year

The second year is dedicated, for all students, to achieving educational objectives in the industrial, environmental, and management areas. In particular, aspects related to control and implementation devices used in agriculture, agricultural machinery, and more generally industrial technologies for precision agriculture, supply chain management for agricultural products, risk management in operational procedures, intelligent irrigation management techniques, and environmental engineering for sustainable agriculture are explored in depth. The curriculum is rounded out with several elective courses related to the use of drones in agriculture, renewable energy, and the use of new technologies for entrepreneurship.

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).

All courses, with the exception of realignment courses, are taught in a blended format, balancing traditional lecture-based teaching with more innovative approaches that emphasize laboratory and participatory learning. This allows students to interact with the instructor and apply the theoretical knowledge they have acquired to small experimental devices. Realignment courses, on the other hand, are primarily characterized by lecture-based teaching.

All teachers provide the materials related to their teaching through the Webeep platform.

Among the various innovative teaching methods used in the program, one of the most widespread involves seminars led by company staff or company visits. These methods help introduce students, from their first year, to the world of work and help them understand the various professional roles that an Agricultural Engineering graduate can fill.

Another approach, adopted in some courses, involves the use of flipped classrooms. Students are divided into groups (typically three people), and each is assigned a topic related to the course syllabus to explore independently using materials provided by the instructor. Each group must then present the results of their study to the entire class, during a critical discussion between the instructor and the other students.



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.

Both traditional methods (primarily in realignment courses) and innovative methods are adopted for assessment, including peer-review assessment in the case of flipped classrooms; the completion of small projects during laboratory teaching hours, the evaluation of which contributes to the student's overall assessment through a written or oral exam; and assessment through the completion of projects assigned to small groups of students, which include validation of the student's proposed solution through simulation or simple experimental devices and a critical discussion of the design choices made and the results achieved during an oral exam that replaces the traditional written exam.

Here are some tips for managing your time better and increasing the efficiency and effectiveness of your studies.

For all students:

- Regarding group projects, try forming working groups to develop projects aligned with your actual academic interests and future professional goals. It's helpful to discuss this with your professors and take advantage of the small class size. Creating a group with as many diverse backgrounds as possible can also greatly help you approach the exam project. It can also be a way to learn new things from colleagues whose backgrounds are different from yours (perhaps you'll discover a new passion in this way!).
- Spreading out your theoretical study throughout the semester helps you better manage your workload. Above all, avoiding cramming projects into exam sessions allows you to approach them more calmly. Project reviews are very helpful, but it's essential to be well-prepared.
- Always ask teachers for clarification on the assessment objectives and evaluation criteria, both for the final exam and for any projects, helps you focus on the truly relevant topics and maximizes study efficiency.
- It is important to plan your studies strategically, identifying the most challenging exams or projects early in the semester.

For students coming from a non-engineering degree:

- Taking advantage of tutoring sessions, especially for those with a non-engineering background, can make a difference. Asking professors and teaching assistants without hesitation is essential for clarifying doubts and filling any gaps.
- Focus on acquiring basic knowledge related to



- fundamentals of automatic control and mathematical analysis, necessary to best approach the teaching of Control Systems for Smart Agriculture;
- modeling of mechanical systems, necessary to best address the teaching of Control and Actuating Devices for Agriculture;
- fundamentals of computer science, in particular familiarizing oneself with programming environments, especially if one has never done so before, necessary to best approach the teaching of Data Harvesting and Data Analysis for Agriculture.

For students coming from an Engineering degree:

- In the alignment semester, the approach to studying is different from what an engineering graduate is used to: the subjects are discursive, and the tests are often oral, which requires the development of adequate argumentation skills (unlike the three-year engineering degree where the focus was often on solving exercises).

For international students:

The first semester of the AGE program includes courses (which are essential for understanding the courses in subsequent semesters) taught exclusively in Italian. Therefore, the ability to keep up with the pace and study effectively may be impaired due to the language barrier.

Some suggestions can still be provided regardless of the situation:

- Try to attend all the lessons, in particular the ones that are most understandable (especially linguistically, if your Italian is still very basic), continuing to follow them and taking notes as much as possible.
- Use university materials, such as slides and textbooks (possibly asking the instructor to suggest equivalent textbooks in English), as your primary sources of study. Rely on online resources, such as videos of lectures from similar courses taught in English or online courses, and request discussions with instructors to clarify more complex topics.
- Practice the exercises as much as possible.
- Practice with old exams to familiarize yourself with the test formats but avoid limiting yourself to identifying recurring patterns and memorizing the resolution methods, so as not to risk passing an exam without having really understood the topics and encountering difficulties in the related teachings.
- Ask for help or advice from previous students and teachers.
- Start studying as early as possible to avoid wasting time, as the first semester is the most difficult period as you try to find your own study rhythm.

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 program concludes with the preparation of the thesis, a moment in which each student has the opportunity to exploit the skills acquired during the two years of training to solve a theoretical or experimental research problem.

The thesis is assigned by one of the University's professors (supervisor), who will monitor and guide the student throughout the process, up until the final exam. It can be completed either in one of the University's laboratories or at a company or a foreign university. There are two different types of thesis work: thesis with an examiner and thesis without an examiner.

The main difference between the two projects concerns whether the student makes an original scientific or technological contribution. A thesis without an examiner, in fact, primarily involves the application of an existing methodology or technology to a simulation or experimental case study. A thesis with an examiner, however, to be considered as such, must include an original methodological or technological contribution from the student, that improves an existing methodology or technology.

For example, research aimed at improving the autonomous navigation techniques used by agricultural robots to automatically harvest grapes could be conducted in two different ways. One strategy that exists in the literature could be considered, based on the use of GPS to identify the robot's position, simple control systems to adjust its trajectory, and cameras to identify and avoid obstacles. The strategy could be implemented and tested, in simulation or in the field, to characterize it and evaluate its performance.



Alternatively, one could still consider a strategy similar to the one previously proposed in the literature, but with the intention of improving some aspects. By focusing on trajectory control, the existing methodology, based on simple control systems, could be replaced with an innovative one based on advanced control methodologies. Once this new methodology is developed, it would be, as in the previous case, implemented and tested, in simulation or in the field, to characterize it and evaluate its performance.

The first work described would be configured as a thesis without an examiner, while the second as a thesis with an examiner.

Obviously, the two projects, theses with an examiner and theses without an examiner, also differ in the commitment required of the student and, normally, in the duration of the project, and in the maximum score obtainable at graduation.

The distinction between theses with and without an examiner based on the presence or absence of an innovative contribution is not common at all universities and, in particular, is almost never applied abroad. For this reason, when a student wishes to carry out their thesis work in a company or abroad, it is very important to maintain close contact with their supervisor, from the very beginning and throughout the thesis. The supervisor will guide the student in defining the topic and the work to be done, assessing, from time to time, whether it could be the subject of a thesis with an examiner. Finally, in the case of theses abroad or theses in a company, it is very important that the choice of supervisor is consistent with the topic addressed in the thesis. In fact, if at the end of the experience carried out in a company or abroad the work carried out can only be presented as a thesis without an examiner, but the student does not want to give up the opportunity to carry out a thesis with an examiner, the supervisor can suggest to the student how to integrate the work, adding an innovative contribution to it. This is obviously only possible if the supervisor has research experience related to the topic on which the student wrote his/her thesis.



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](#).

Given the significant differences in the curriculum of students enrolling in this Master's Degree, the Program invests heavily in educational support initiatives for students.

Several activities are activated every year for all students, and in particular to support students coming from three-year degrees in Agricultural Sciences and with possible gaps in Engineering subjects, to the following extent:

- 25 hours of Fundamentals of Computer Science and Automatic Control;
- 25 hours of Analysis II.

Regarding courses taught in Italian, part-time student collaborations have been established to provide English-language tutoring to international students who recently arrived in Italy, helping them understand the content and providing support in exam preparation. These initiatives are targeted, with highly personalized learning paths, specifically for the following courses:

- Fundamentals of Automatic Control and Computer Science
- Analysis II

Individual tutoring actions called Peer to Peer are also carried out.



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](#).

In addition to frequent seminars held by external experts and company visits, the course teachers often organize Passion In Action activities.

The Passion in Action courses offer laboratory project activities aimed at developing pilots of relevant technological devices for innovative, sustainable and circular agricultural practices.



The teaching methodology is based on learning based on the resolution of a multidisciplinary problem, with the prototyping of a solution as the main operational tool.

The approach proposed to the students, who are guided through the experience by a multidisciplinary group of teachers, is collaborative, transversal to disciplines and characterized by a focus on strengthening soft skills.

Passion In Action activity involves the construction of a laboratory anaerobic digester, a small-scale pilot of a real plant capable of realistically reproducing the behavior of such a plant, for the production of methane from organic waste. The device designed and built by the students is equipped with instrumentation for measuring the key parameters characterizing the process, as well as the biogas produced, a control system built with Arduino boards, and a data collection and analysis system. This activity therefore allowed the students to apply the skills acquired in various courses of the Study Program to a real device, relating, for example, to the design and construction of a control system, the characterization of a chemical process, and the collection and analysis of data generated by the plant.

A second example, still under construction, concerns the creation of a small hydroponic system.

The results of these activities, along with other experimental devices, constitute the Study Program's teaching laboratory. This laboratory is available to all courses, which can plan both curricular and extracurricular experimental activities, and to all interested students who, under the guidance of a teacher, can use the devices available for an educational experience in which they can test their acquired skills on a real device. The laboratory can also be used to carry out activities related to the thesis.

In the fall of 2024, the "Cremona Engineering Students" student association was founded with the goal of creating a community among students at the Cremona campus and enriching the university experience beyond mere teaching. From the beginning, the group's goal has been to unite students, foster new connections, and offer opportunities to develop common interests, whether athletic, cultural, social, or professional. In its first months, a seminar on Smart Working was held, as well as the first university aperitif on campus after more than five years. Numerous athletic and extracurricular initiatives were also promoted.



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 experience of mobility abroad, both for theses and exams, is also of particular interest to students, especially during the second year. Although exchange programs are currently available with only a few institutions, they include the most important European universities in the field of technology application in agriculture and livestock farming.



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.



With the support of the Career Service, it is possible to arrange an internship at one of the many companies in the agro-industrial sector, both in Italy and abroad. The internship can represent both an additional training activity and an opportunity to complete your thesis in the company.

The high number of internships offered at companies relative to the total number of students attending the course testifies to the effectiveness of this tool in introducing students to the world of work. Furthermore, in some cases, the internship experience can lead to hiring.

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.



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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](#)].

The study program and the individual course instructors periodically organize company visits, courses, and seminars led by company personnel. These opportunities allow students to experience the world of work and understand the various sectors and professional roles that an Agricultural Engineering graduate can pursue.

An important role in career guidance is also played by internships that, with the support of the Career Service, students can undertake in various companies in the agro-industrial sector, either as extracurricular training or as a means of completing a thesis in the company.

Finally, while completing a particularly innovative thesis on topics that have immediate application in the agro-industrial sector, some students have developed the idea of founding a spin-off or a start-up.



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From the perspective of continuing their university education, although there is no PhD in Agricultural Engineering, students interested in continuing their studies can undertake any other PhD program at the Politecnico di Milano (for example, Information Engineering, Mechanical Engineering, Environmental Engineering, Chemical Engineering, etc.) whose educational purpose is consistent with research in the field of Agricultural Engineering. In the case of a PhD in Information Engineering, the research activity can be carried out, for example, at the ROSETEA laboratory at the Cremona campus.



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Teaching Office: didattica-cremona@polimi.it

Useful links

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

Course website: www.ccsage.polimi.it

WeBeeP Channel of the Study Programme

Student Office: [Online counter](#)

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