Politecnico di Torino

ACADEMIC REGULATIONS

Master's degree programme
in
AGRITECH ENGINEERING

Department of Environment, Land and Infrastructure Engineering
Collegio di Ingegneria Elettronica, delle Telecomunicazioni e Fisica

Academic Year **2025/2026**

The English translation of this document is provided as a support to the student community and has no legal effects. The Italian version shall constitute the sole authentic text and will be referred to for any legal matters.

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Art. 1 – Specific learning objectives and career prospects

1.1 Specific learning objectives

The Master's degree programme in AgriTech Engineering, entirely English-taught, aims to train engineers capable to address the technological challenges of agricultural production, at an advanced level and with a multidisciplinary approach. Particular focus is placed on safety and sustainability across the various stages of agricultural production, as well as on the technological and procedural integration of heterogeneous elements of automation, design of monitoring networks, data management, environmental protection and resource circularity. This requires strong multidisciplinarity in foundational knowledge and the development of problem-setting, problem-solving, and design skills in specialized subjects (core and related disciplines).

1.2 Career prospects

The Master's degree programme aims to train a variety of professional profiles. The career prospects and the main functions and competencies associated to each profile are illustrated below.

Professional profile	Main functions and competencies
Agricultural Technology Engineer	Functions: Master's engineers in this role perform the following functions: • Developing and managing technological aspects in agricultural enterprises, working alongside agronomists. • Designing appropriate systemic solutions, collaborating both with colleagues within the company and with end-users. • Generating useful and understandable results for agricultural operators, aligning application needs with solutions derived from results obtained through various technological disciplines. Competencies: • Competencies related to various technological aspects of agricultural production and farm management. • Strong methodological and engineering skills. • High analytical and abstract reasoning skills for solving application-driven problems. • Ability to effectively visualize information and extracted knowledge. • Ability to use knowledge for decision-making purposes. • Skills for applying technologies to the ethical impacts of the analysis performed. • Competencies for implementing sustainable and circular solutions. • Ability to operate in multidisciplinary fields. Potential Employers: • Producer associations and organizations • Large agricultural enterprises • Agricultural consortia • Professional organizations • Food industries • Agro-food consulting firms • Agricultural production chain industries • Engineering firms designing, developing, and implementing processes, plants, and technologies supporting the production, distribution, and commercialization related to agriculture • Research centres and public and private laboratories • Technical departments of public administrations and consultancy firms for the environment, safety, agricultural and livestock production.

1.3 Professional profiles (ISTAT codes)

With reference to the list of professional profiles classified by ISTAT (Italian National Institute of Statistics, https://www.istat.it/en/), graduates from this Master's degree programme can work as:

ISTAT code	Description
2.2.1.7.0	Ingegneri industriali e gestionali
2.6.2.3.2	Ricercatori e tecnici laureate nelle scienze ingegneristiche industriali e dell'informazione

Art. 2 – Admission requirements

Italian regulations on enrolment in Master's degree programmes require Italian universities to check that applicants meet the following requirements:

- have a **three-year Bachelor's degree or university diploma,** or **other educational qualification obtained outside Italy** and recognized as suitable for admission;
- meet **specific curricular requirements**;
- have an **academic performance considered suitable** for admission;

CURRICULAR REQUIREMENTS

As far as curricular requirements are concerned, applicants must have a Bachelor's degree belonging to one of the following classes: classe L-7 (Ingegneria civile e ambientale), or L-8 (Ingegneria dell'Informazione), or L-9 (Ingegneria Industriale) or L-30 (Classe delle lauree in Scienze e Tecnologie Fisiche) or an educational qualification obtained outside Italy and recognized as suitable for admission.

Alternatively, applicants must have a university degree (minimum 3 years) with at least earned 180 credits divided as follows:

- minimum 40 credits earned in the following Scientific Disciplinary Fields (settori scientifico-disciplinari): CHIM/01, CHIM/02, CHIM/03, CHIM/04, CHIM/05, CHIM/06, CHIM/07, FIS/01, FIS/02, FIS/03, FIS/07, ING-INF/05, MAT/02, MAT/03, MAT/05, MAT/06, MAT/07, MAT/08;
- minimum 20 credits earned in the following Scientific Disciplinary Fields (settori scientifico-disciplinari): BIO/07, FIS/06, ICAR/01, ICAR/02, ICAR/03, ICAR/06, ICAR/08, ICAR/09, ICAR/17, GEO/05, ING-IND/08, ING-IND/09, ING-IND/10, ING-IND/11, ING-IND/13, ING-IND/14, ING- IND/16, ING-IND/17, ING-IND/19, ING-IND/21, ING-IND/22, ING-IND/25, ING-IND/28, ING-IND/31, ING-INF/01, ING- INF/02, ING-INF/03, ING-INF/04, SECS-S/01.

The credits of the Scientific Disciplinary Fields found both in the first group and in the second group are primarily counted for the first group. The remaining credits are counted for the second group. Therefore, the credits of a course can be counted partly to reach the minimum number of credits of both groups.-.

The curricular requirements are automatically met by the applicants who have a Bachelor's degree belonging to classes L-7, L-8, L-9 o L-30. In all other cases, admission applications will be evaluated by the Academic Advisor of the degree programme, or by a delegate, who will decide and motivate the credit equivalence for the Scientific Disciplinary Fields that are different from the ones established by the present Regulations. Applicants who lack less than 10 credits may be admitted to the programme. For applicants who lack more than 10 credits, the evaluation will be subject to the final approval of the Coordinator or the Vice coordinator of the degree programme.

Applicants who do not meet the curricular requirements are required to make up for their unfulfilled curricular requirements (missing credits) before enrolment, by means of:

- **enrolment in single courses in order to make up for unfulfilled curricular requirements**: this is possible for students who need to earn up to a maximum of 60 credits. Students who enrol in single courses for this reason are allowed to include in their Personal Study Plan exclusively the courses assigned by the evaluator.
  Or else,
- **credit transfer at Bachelor's level**: this is possible for students who need to earn more than 60 credits. In this case, students need to enrol in the Bachelor's degree programme that offers the credits in the specific Scientific Disciplinary Fields (core subjects and commentary subjects) required for admission to this Master's degree programme.

SUITABLE ACADEMIC PERFORMANCE

Applicants must have a suitable academic performance and an English language certificate (B2 level or above, as defined by the Common European Framework of Reference for Languages: Learning, Teaching, Assessment – CEFR).
The academic performance will be assessed as follows.

1) Applicants from Politecnico di Torino

Applicants can be admitted to the programme if they earned their Bachelor's degree in:

- 4 years or less - no exam average grade required (1);
- between 4 and 5 years–exam weighted average grade required: ≥21/30
- more than 5 years– exam weighted average grade required (2): ≥ 24/30

The weighted average grade is calculated on all accrued course credits (graded on a scale of 30) counting towards the achievement of the Bachelor's degree, after having subtracted the worst 28 credits.

The duration of the Bachelor's path is calculated on the basis of the number of academic years in which the applicant has been enrolled at the university, starting from the first enrolment in the Italian university system:

- for full-time students: the duration of the Bachelor's path is equivalent to the number of academic years of enrolment.
- for part-time students: each year of enrolment is counted as half-year.
- for full-time students taking part in the "Dual Career" programme: each year of enrolment is counted as half-year, as for part-time students.

In the event of credit transfer, the duration of the Bachelor's path must be increased proportionally to the number of credits that have been recognized by Politecnico (10-60 CFU =1 year, etc.). The worst 28 credits must be subtracted proportionally to the number of validated credits.

(1) Applicants must have graduated by the end of the December Graduation Period
*(2) The weighted average is calculated as follows: ∑(grade*credits) / ∑credits*

2) Applicants from other Italian universities

Applicants who have a Bachelor's degree awarded by another Italian university must have a weighted average grade of all the exams ≥ 24/30, regardless of the number of years it took them to graduate. The weighted average grade (∑(grade*credits) / ∑credits) is calculated on all accrued course credits (graded on a scale of 30) counting towards the achievement of the Bachelor's degree, after having subtracted the worst 28 credits.

3) Applicants with a non-Italian educational qualification

To be admitted to Politecnico Master's degree programmes, applicants must have an academic qualification awarded by an accredited/recognized foreign university, earned after completing at least 15 years of total education (including primary school, secondary school and university).
Applicants who have attended a university programme lasting five or six academic years (different from the 3+2 system) without completing it must still meet the minimum requirement of 15 years of total education (of which at least 3 years at university level) and they must have earned at least 180 ECTS credits or equivalent. Pre-university courses or foundation years cannot be counted towards the minimum number of credits or the minimum numbers of years of total education mentioned above.
The applicant's academic performance and the consistency between the degree programmes offered by Politecnico and the applicant's previous academic background are assessed by the professors designated by Coordinator of the Collegio. The evaluation is carried out on the Apply@polito platform under the section called "applicants with a non-Italian qualification."

A positive evaluation (offer of admission) allows applicants to enrol in the programme only in the academic year in which the application has been submitted. Admitted applicants who do not complete the enrolment process within the deadlines are required to apply again to the programme in the next academic years.

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More information is available at https://www.polito.it/en/education/applying-studying-graduating/admissions-and-enrolment/master-s-degree-programmes

Art. 3 – Programme curriculum

3.1 Programme overview

Given the diverse disciplinary backgrounds of the students of the Master's degree in AgriTech Engineering, the first semester offers a curriculum designed to provide the key knowledge needed for more specialized AgriTech courses. This curriculum is tailored to the students' cultural backgrounds, ensuring a common knowledge platform. Specifically, all students are required to take a core course to gain basic competencies in agronomy and related fields. Regarding engineering knowledge alignment, students will take three courses to complement their prior studies, selecting from a group of six modules covering hydraulics, organic and environmental chemistry, sustainability and safety in production processes, electrical engineering and circuits, electronic systems, and advanced programming.

In the second and third semesters, students will gain specific technical knowledge and competencies in the following areas: data management and analysis for developing advanced technological solutions for precision agriculture, focusing on sensors, data transmission, and IoT approaches; mechanics and mechatronics applied to agriculture; integrated management and protection of water resources, with a particular focus on impact evaluation, water conservation, and reuse in agricultural settings; agricultural production safety, regulations, and policies; technological management and innovation in agriculture; measurement and mapping of soil physico-chemical parameters at various scales; recycling, reuse, and valorisation (both in material and energy terms) of agricultural production waste in a circular approach to resource protection.

The fourth semester is dedicated to optional courses and to the thesis. Specifically, the program offers 12 free choice credits, which may be used for optional courses, an optional internship, or activities connected to the Challenges (with 2 extra credits beyond the 120 required for graduation) or participation in Student Teams. Students are required to write a final thesis, which must be original and is worth 18 credits. The thesis may be extended to 24 credits, using some of the free choice credits, if the student wishes to work on a more detailed experimental thesis.

3.2 Organization of educational activities

The list of courses (compulsory and optional), curricula, possible organization of courses into modules, any pre-requisites and exclusions and the list of the faculty members responsible for the courses are available at: https://didattica.polito.it/pls/portal30/sviluppo.offerta_formativa_2019.vis?p_a_acc=2026&p_sdu=32&p_cds=457

The list of the Scientific Disciplinary Fields (Settori Scientifico Disciplinari) for each activity (specific subjects and complementary subjects) is available at: https://didattica.polito.it/pls/portal30/sviluppo.vis_aiq_2023.visualizza?sducds=32457&tab=0&p_a_acc=2026

Art. 4 - Student career

The Student Guide is published on the Teaching Portal every year before the beginning of the academic year. There is a specific Student Guide for each Master's degree programme. The Student Guide is available on the web site of the degree programme.

It contains information and deadlines on:

- academic calendar;
- Personal Study Plan and Annual Personal Study Plan;
- free choice credits;
- internships;
- tuition fees;
- dual career;
- classes and exams;
- class delivery;
- foreign language learning;
- studying abroad/mobility programmes;
- exam rules;
- transfers in/out and internal transfers;
- interruption, suspension, withdrawal, forfeiture;
- credit transfer

Art. 5 - Final Examination

The final examination is worth 18 credits. Developing and writing a thesis normally requires a period of approximately 3.5 months of full-time work. The final examination consists of an 18-credit thesis or, alternatively, a 6-credit internship in a company followed by an 18-credit thesis.

The thesis involves an analysis, a project, or an innovative application, related to topics that must be consistent with the educational objectives of the degree programme. Students are required to write a final written document (Master's thesis). The courses offered in Year 2 are organized in a way that leaves a sufficient time for the development of the thesis. Students who have completed all the exams are eligible to be admitted to the final examination.

The Master's thesis serves as a comprehensive assessment of the student's mastery of technical content, organizational and communication skills, and individual work capabilities in relation to complex analyses or projects. The final examination typically requires the application of knowledge gained from multiple courses, the integration of additional elements and the ability to propose innovative ideas. The topic and activities connected with the thesis must be agreed upon with a faculty member from the Politecnico (a thesis supervisor and an internship tutor, if applicable). Students are allowed to work at their thesis project also at external organizations or companies, in Italy or abroad, under the supervision of a thesis supervisor from Politecnico and a tutor from the external institution.

Students are required to publicly present and discuss the preparation activities for their thesis and the corresponding results (oral defence) in front of a Graduation Examining Committee, who will evaluate both the work carried out and the presentation. The Master's thesis and its oral defence must be in English.

The topic and the activities connected with the thesis must be agreed upon in advance with the Thesis Supervisor, i.e. the faculty member responsible for guiding the student through the training process and the development of the activity.

Students must submit their thesis application and request the thesis topic online through a dedicated procedure available in their personal page on the Teaching Portal, under the section entitled "Thesis," in compliance with the Graduation Periods deadlines published in the Student Guide – Thematic Calendar Section.

Working on a thesis generally means analysing and designing complex electronic systems or components, resulting from the application of knowledge acquired in the degree programme and its integration with additional elements, such as the ability to propose innovative ideas.

Students who work on their thesis projects at external research institutions or companies will also be supervised by a tutor from the external institution who will provide guidance outside Politecnico.

The final grade is given by the Graduation Examining Committee. Its members evaluate the overall average grade of all the exams on a scale of 110. The committee may add up to a maximum of 8 points, considering the following factors:

- quality of the thesis work (commitment, autonomy, methodological rigor, relevance of results achieved, etc.);
- thesis oral defence (clarity in presentation, etc.);
- outstanding results achieved during the academic path (number of honours, time to graduation).

A degree with honours (lode) may be awarded at the Committee's discretion if the total score reaches at least 112.51.

If the thesis meets the required standards, the Committee may grant the *dignità di stampa* (printing honour) only if the final grade is 110 cum laude and the Committee's decision is unanimous.

More Information and Deadlines:

- Student Regulations
- Student Guide

Diploma Supplement:
In compliance with article 11, paragraph 8, of Ministerial Decrees No. 509/1999 and 270/2004. Politecnico di Torino issues the Diploma Supplement, a document that can attached to a higher education qualification. It is designed to improve the transparency of international qualifications, as it provides the description of the curriculum successfully completed by the student. This certificate follows the European model developed by the European Commission, the Council of Europe and UNESCO – CEPES: it is issued in two languages (Italian-English) and it is composed of approximately 10 pages.

More information at https://www.polito.it/en/education/applying-studying-graduating/academic-experience/certificates-and-other-documents

Art. 6 – References

6.1 Student Regulations

The Student Regulations define the rights and responsibilities of students and set out the administrative and disciplinary rules that all students enrolled in a degree programme or in a single learning activity at Politecnico must abide by.

6.2 Other Regulations

Particular aspects of students' academic progress are governed by specific Regulations or Calls for Applications published on its website.
In particular:

- The Tuition Fee Regulations specify the annual tuition fees that students must pay. The procedure for requesting a tuition fee reduction is explained in a dedicated guide.
- The University Regulations on Funds for Student Mobility Abroad outline the principles and rules for awarding and disbursing mobility grants. Standard procedures apply to all types of mobility programmes with unified Calls for Applications published twice a year at https://www.polito.it/en/education/applying-studying-graduating/studying-abroad
- The Code of Ethical Conduct also applies to students.