Politecnico di Torino

ACADEMIC REGULATIONS

Bachelor's degree programme

in

ENVIRONMENTAL AND LAND ENGINEERING

Department of Environment, Land and Infrastructure Engineering

Collegio di Ingegneria per l'Ambiente e il Territorio

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 matter.

SUMMARY

Art. 1 - Specific learning objectives and career prospects

1.1 Specific Learning Objectives

The Bachelor's degree programme in Environmental and Land Engineering aims to train a professional engineer with a multidisciplinary background and a specific focus on knowledge and skills related to works, plants, and processes in the environmental and territorial sectors.

Building on an interdisciplinary foundational education anchored in the conceptual and methodological contents of industrial and civil engineering, the programme provides solid specialised training that prepares students for the implementation and management of interventions such as:

- restoration following territorial instability caused by natural or anthropogenic events;
- protection against natural hazards (seismic, volcanic, and flood risks);
- mitigation of environmental impacts through the control of pollutant emissions;
- treatment of water intended for human consumption, liquid effluents, and gaseous emissions;
- recovery and disposal of solid waste.

The programme also develops competencies in areas including:

- subsurface analysis techniques through surveys and geophysical investigations;
- laboratory and in situ measurement methods for subsurface and fluid characteristics;
- assessment of environmental risks induced by human activities and settlements;
- environmental impact assessment of works and infrastructures;
- analysis of the risk of incidental environmental events;
- development of environmental management, safety, and monitoring systems for key impact parameters;
- prevention and control of hydro-geological risks;
- monitoring of territorial evolution;
- circular economy and environmental management of processes.

1.2 Career prospects

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

Professional Profile	**Main functions and competencies**
Environmental and Land Engineering Technician – Expert in the Design and Management of Works and Plants	Functions: 1. Plant Management Technician: Operates in the management of processes in companies and plants, performing operational, analytical, and control tasks related to environmental aspects such as the mitigation of pollutant emissions, treatment of liquid and gaseous effluents, and the management and control of water, waste, and air treatment and recovery plants. 2. Monitoring Systems Technician: Develops monitoring systems for key impact parameters, manages environmental monitoring networks in companies managing waste, water resources, and other environmental sectors, and works as a technician in prevention and protection services. 3. Site Technician: Works in the prevention and control of hydro-geological risks, supervises restoration works following territorial instability caused by natural or anthropogenic events, and operates in excavation and underground works for infrastructures. 4. Junior Designer/Consultant: Produces environmental impact studies, contributes to the design of territorial protection works and infrastructures, waste and effluent treatment plants, and environmental remediation interventions, and conducts risk analyses for accidental environmental events.

	5. Environmental Management Technician: Manages environmental management systems, quality, eco-compatibility assessments, and process safety in small, medium, and large companies. Competencies: • Knowledge and application of land surveying techniques using topographic methods; • Knowledge and application of survey techniques and geophysical investigation methods; • Ability to process spatial data and manage permanent measurement and control networks; • Knowledge of laboratory and in situ measurement methods for water and soil characteristics; • Knowledge and application of geotechnical, structural, hydraulic, and sanitary-environmental engineering methods and tools; • Knowledge and application of circular economy methods; • Knowledge of environmental regulations; • Knowledge and application of methods for managing and estimating emissions, impacts, and risks. Potential employers: • Environmental and safety technicians in small, medium, and large companies in strategic sectors such as environment, energy, agri-food, and manufacturing; • Technical officers in public agencies and authorities; • Junior designers in engineering firms, service and consulting companies, professional studios, and construction companies.
Preparation for further studies	**Knowledge required for continuing studies**
Master's Degree in Environmental and Land Engineering, Class LM35 (Environmental and Land Engineering)	Bachelor's graduates in Environmental and Land Engineering are expected to: 1) have knowledge of the methodological and operational aspects of mathematics and other basic sciences, and be able to use this knowledge to interpret and describe engineering problems; 2) have knowledge of the methodological and operational aspects of basic engineering disciplines and be able to solve simple engineering problems using the calculation tools acquired; 3) have knowledge of the methodological and operational aspects related to the disciplinary areas of sanitary-environmental engineering and excavation engineering, and be able to identify, formulate, and solve problems using updated methods, techniques, and tools; they must also be able to conceive and support arguments in these disciplinary areas; 4) understand the complexity of designing and constructing works and plants in the environmental and land sectors and know the tools to manage it; **5)** be able to communicate effectively, both in writing and orally, in at least one European Union language (English), in addition to Italian.

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/), a graduate from this Bachelor's degree programme can work as:

ISTAT code	Description
3.1.3.2.2	Tecnici minerari
3.1.3.5.0	Tecnici delle costruzioni civili e professioni assimilate
3.1.5.1.0	Tecnici di produzione in miniere e cave
3.1.8.2.0	Tecnici della sicurezza sul lavoro
3.1.8.3.1	Tecnici del controllo ambientale

Art. 2 - Admission requirements

To be admitted to this Bachelor's degree programme, applicants must hold a high school diploma (as required by current regulations) or an equivalent qualification obtained abroad, recognized as valid. Additionally, they must have or attain an appropriate level of initial background knowledge.

The number of admissible students is determined annually by the Governing Bodies of Politecnico based on locally programmed admissions, considering the available facilities and the student-to-faculty ratio.

The number of available places and admission procedures are specified in the official Call for applications for admissions published at https://www.polito.it/en/education/applying-studying-graduating/admissions-and-enrolment/bachelor-s-degree-programmes/calls-for-application-regulations-and-ranking-lists .

In particular, for enrolment in this Bachelor's degree programme, applicants must take an admission test (TIL-I), administered in different sessions according to a specific calendar published on the recruitment web pages.

The test is conducted using the technical equipment available in the computer laboratories of the University.

The minimum score required to be included in the ranking list is set at 30% of the total score. Applicants may take the TIL-I test up to a maximum of three times. In the event of multiple attempts, the highest score obtained by the applicant will be considered valid. The test consists of answering 42 questions in 1 hour and 30 minutes. These questions are divided into four sections covering four different subject areas: Mathematics, Reading Comprehension and Logical Reasoning, Physics, and Basic Technical Knowledge.

Applicants who score below 30% in the Mathematics section will have to fulfil some supplementary academic obligations (in Italian, Obblighi Formativi Aggiuntivi - OFA).

They will be invited to attend tutoring math classes during Year 1 and they must attend a supplementary course. This course, called C.I.A.O. - Corso Interattivo di Accompagnamento Online (Interactive Online Support Course), is normally offered in the week before the beginning of classes. It seeks to help applicants fill in the gaps in their Math knowledge through specific online tutoring sessions.

The OFA requirements will be considered fulfilled if, by the end of Year 1, at least one of the following conditions is met:

- students pass one of the two Mathematics exams of Year 1 (Mathematical Analysis I or Linear Algebra and Geometry);
- students pass the final test of the CIAO course by correctly answering at least 10 out of 15 questions. This test will be offered three times during the academic year.

Any exemptions from taking the admission test are specified in the Call for applications for admissions to the Bachelor's degree programmes of Politecnico di Torino.

Students with a non-Italian educational qualification who intend to enrol in the programme, which is delivered entirely in Italian, must hold, at the time of enrolment, a certificate of Italian language proficiency at level B2, as defined by the Common European Framework of Reference for Languages (CEFR).

For more information regarding the Call for applications, the number of admissions, the admission test registration and enrolment procedures, please visit https://www.polito.it/en/education/applying-studying-graduating/admissions-and-enrolment/bachelor-s-degree-programmes/calls-for-application-regulations-and-ranking-lists .

Art. 3 - Programme curriculum

3.1 Programme overview

The study program does not have any tracks or specializations and is designed to develop a professional figure capable of understanding the impact of engineering solutions applied to the environmental and land sectors within social and physical-environmental contexts, providing the cognitive tools necessary for the continuous updating of knowledge, so as to actively participate in the process of technological innovation.

The curriculum is organized into interconnected thematic areas: basic scientific subjects (first and second year), basic engineering subjects (second and third year), and specific scientific and engineering subjects (second and third year).

The basic scientific and engineering subjects initially provide the knowledge and tools to understand the physical world and to simulate events, processes, and actions occurring within it.

The specific scientific and engineering subjects cover the broad disciplinary field of environmental and land engineering, ensuring a wide-ranging preparation necessary to enter the workforce or to continue studies with solid foundational knowledge and engineering competencies, enabling students to address specialized topics across all areas of environmental and land-related challenges.

Students also have the opportunity to select, within the course catalogue, additional courses through elective credits to complete and deepen their preparation in emerging topics specific to environmental and land engineering.

The completion of the study program requires passing a final examination, based on a work independently carried out by the student. While it does not require particular originality, it involves the preparation of a final written report.

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=568

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=32568&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 Bachelor's degree programme. The Student Guide is available on the web site of the degree programme.

It contains information and deadlines on:

- academic calendar;
- supplementary academic obligations (Obblighi Formativi Aggiuntivi - OFA);
- 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 represents an individual learning opportunity to complete the program. It does not require particular originality but consists of carrying out independent work in the form of a written report (Final Project) in which the student demonstrates the analysis of a specific problem related to the courses attended, as well as the study of the relevant documentation and the performance of simple evaluations.

The Final Project may optionally be written in English.
The effort required to complete the Final Project is approximately 75 hours, corresponding to 3 ECTS credits.
The final examination consists of a public presentation before a Committee, making use of audiovisual tools. The presentation may last a maximum of 12 minutes. At the end of the presentation, a brief discussion begins, during which the Committee Members ask specific questions.

Students must submit their application online through a dedicated procedure available on their personal page of the teaching portal in the section "Degree and Final Examination," respecting the deadlines for the session of interest published in the Student Guide – Thematic Calendar Section.

By the deadline indicated in the Student Guide for submitting the graduation application, the student must obtain approval of the work carried out from the Supervisor of the Final Project. This approval, together with passing all exams, will allow the student to participate in the relevant graduation session.

The report, prepared according to internationally accepted standards for a technical report, must be uploaded in PDF format via the dedicated procedure on the student's personal page of the teaching portal. Candidates who have obtained the Supervisor's approval will be allowed to attend the final examination in the relevant session according to the predetermined calendar of presentations and graduation commencement ceremonies.

The final grade is determined by the Graduation Examining Committee, which evaluates the overall average grade of the exams on a scale of 110 after having subtracted the 16 worst credits. This number is proportionally reduced if some of the exams have been validated without a grade (pass-or-fail exams) or in the event of credit transfer, since only the exams taken at Politecnico are taken into consideration for this calculation. To this average, the committee may normally add up to 5 additional points, based on:

- the evaluation of the Final Project;
- the number of years it took the student to complete his/her studies;
- the evaluation of the educational path partially or totally in English;
- other information about the student's course of study (for instance, the number of exams passed with honours, experience abroad, extracurricular activities etc.).

Students enrolled at Politecnico for the first time starting from a.y. 2022/2023 (and following aa.yy.) who pass their first-year courses and the core courses offered in Year 2 (Mathematical Analysis 2 and Physics 2) by the end of the examination session which immediately follows the semester of first course attendance will get a bonus (0.5 points for each exam) that will be added to the final grade, up to a maximum of 4 points.
Honours (cum laude) may be awarded upon achieving a score of 110, at the discretion of the committee and with a qualified majority, i.e., at least 2/3 of the committee members.

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 be 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.