Politecnico di Torino

ACADEMIC REGULATIONS

Bachelor's degree programme
in
BUILDING ENGINNERING

Department of Structural, Geotechnical and Building Engineering
Collegio di Ingegneria Civile ed Edile

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 Building Engineering prepares professionals to work primarily in the field of building design and construction, both in traditional and industrialized sites, for new developments as well as for the renovation of existing structures. Graduates also work in the management and organization of real estate operations; in the management and organization of the building process, with specific reference to materials, products and components; and in surveying and assessing the building stock.
Building engineers are aware of the complexity of the building system, in relation both to its subsystems and to the broader environmental system, and they possess the competencies needed to manage it effectively.

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**
Building Engineer qualified in the design, construction, maintenance, and management of the building stock	Functions: Graduates in Building Engineering who pass the State examination and register in Section B of the Professional Register of Engineers may work in companies, enterprises, private organizations, and public administrations, or independently. Registration in the Professional Register entitles them to sign design or verification documents and to assume responsibility for their content. The professional profile of engineers is defined in Presidential Decree No. 328 of 5 June 2001, *"Amendments and additions to the regulations on the requirements for admission to the State examination and on the related tests for the practice of certain professions, as well as on the regulations of the related professional orders"*, published in the *Official Gazette*, No. 190 of 17 August 2001, Ordinary Supplement – with particular reference to the "Civil and Environmental Engineering" sector. In particular, graduates in Building Engineering in this profile are skilled professionals who can contribute to the integrated design of building and architectural works, from the preliminary concept to their construction and maintenance. They are mainly employed in design support activities in the technical offices of public bodies and private companies, as well as in engineering firms operating in the building process sector. Competencies: Competencies are defined in Art. 46, paragraph 3, of Presidential Decree No. 328 of 5 June 2001 for the "Civil and Environmental Engineering" sector, and include: • designing and supervising construction or civil engineering worksites, within the limits set by law; • designing and coordinating safety in worksites, upon obtaining qualification to operate in the field of safety pursuant to Legislative Decree No. 81/2008 and subsequent amendments, through the inclusion of the optional course "Construction Site Safety"; • carrying out testing and verifying standards, functionality, and safety of structures; • performing static calculations for simple reinforced concrete works, using standardized methodologies; • drafting technical specifications for tenders; • managing ordinary and extraordinary maintenance activities; • managing relations with clients, workers, colleagues, and institutions. Potential employers: Building engineers holding a Bachelor's degree contribute to the design of complex works and independently design simple works, as provided for by law. Professional activities involving responsibility towards third parties require registration in the Professional Register of Engineers, Section B (Junior Engineers), after passing the State examination. These professionals are mainly employed in design support, management, organizational, and

	construction activities within the technical offices of public and private organizations, construction companies, and engineering firms.
Building Engineer qualified in the design, surveying, and assessment of the building stock	Functions: Graduates in Building Engineering who pass the State examination and register in Section B of the Professional Register of Engineers may work in companies, enterprises, private organizations, and public administrations, or independently. Registration in the Professional Register entitles them to sign design or verification documents and to assume responsibility for their content. The professional profile of engineers is defined in Presidential Decree No. 328 of 5 June 2001, "Amendments and additions to the regulations on the requirements for admission to the State examination and on the related tests for the practice of certain professions, as well as on the regulations of the related professional orders", published in the Official Gazette, No. 190 of 17 August 2001, Ordinary Supplement – with particular reference to the "Civil and Environmental Engineering" sector. In particular, graduates in Building Engineering within this profile are professionals capable of independently managing surveying and modelling of building and architectural structures, real estate appraisal, and building economics. They can also contribute to the design of restoration and rehabilitation works and assess the interaction between new buildings and their context. Their main employment opportunities are in construction companies, real estate and consultancy firms, and public offices. These activities may be carried out either as independent professionals or as technical staff in public and private design offices. Competencies: Competencies are defined in Art. 46, paragraph 3, of Presidential Decree No. 328 of 5 June 2001 for the "Civil and Environmental Engineering" sector, and include: • carrying out surveys, calculations, or measurements; • drafting and submitting technical and accounting documents; • designing and coordinating safety in worksites; • preparing expert reports; • managing ordinary and extraordinary maintenance activities; • preparing cost estimates and budgets; • carrying out real estate appraisals; • managing relations with clients, workers, colleagues, and institutions. Potential employers: Building engineers holding a Bachelor's degree contribute to the design of complex works and independently design simple works, as provided for by law. Professional activities involving responsibility towards third parties require registration in the Professional Register of Engineers, Section B (Junior Engineers), after passing the State examination. These professionals are mainly employed in design support, management, organizational, and construction activities within the technical offices of public and private organizations, construction companies, and engineering firms.
Preparation for further studies	**Knowledge required for further studies**
Master's Degree Programme in Building Engineering, Class LM-24 (Building Systems Engineering)	Graduates in Building Engineering are expected to: • know the history of construction and building techniques, the methods and tools of representation, and the methodological and operational aspects of mathematics and other basic sciences, and be able to apply such knowledge to interpret and describe problems in architecture and construction; • know the methodological and operational aspects of architecture, building, urban planning, and the environment, and be able both to identify, formulate, and solve problems using updated methods, techniques, and tools in the field of building design, and to develop and support arguments in these disciplinary areas; • be familiar with issues related to eco-sustainability, technical and economic feasibility, cost estimation, and the production and construction process in the field of building development; • understand the complexity of building design and the tools to manage it;

	• be able to communicate effectively, in written and oral form, 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
3.1.3.5.0	Tecnici delle costruzioni civili e professioni assimilate
3.1.3.7.1	Disegnatori tecnici
3.1.3.7.3	Rilevatori e disegnatori di prospezioni
3.1.5.2.0	Tecnici della gestione di cantieri edili
3.1.8.2.0	Tecnici della sicurezza sul lavoro
3.1.3.5.0	Tecnici delle costruzioni civili e professioni assimilate

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 degree programme is structured over three years.

In the first year, students are introduced to the basic language of engineering, with a particular focus on mathematics, chemistry, and physics, complemented by one core subject of the programme. The second year provides training in the languages and construction techniques (both historical and innovative) that characterize construction engineering.

The third year focuses on applications in building engineering, particularly in the areas of design, construction, and testing, also through a cross-disciplinary design project integrating the different courses.

Training may also be enhanced through organized activities in student teams, with specific objectives and under the supervision of faculty members. These activities are supported by dedicated funding for student initiatives and cultural activities at Politecnico di Torino.

Courses related to the basic language of engineering are organized into three groups: mathematical analysis, physics, and chemistry, distributed between the first year and the first part of the second year.

Courses related to the languages typical of construction engineering are organized into three groups: representation and surveying; building technology, materials technology, building physics, and building services; structural engineering and geotechnical engineering.

Courses related to applications in building engineering are organized into three groups: digital modelling; architectural design and documentation and building production; economic evaluation.

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=547

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=32547&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 is an individual educational opportunity that completes the programme, without requiring particular originality. It involves the preparation of an independent written report (Final Project) in which students demonstrate their ability to analyse a specific problem related to the courses they have attended, to review the relevant available documentation, and to develop basic assessments.
The Final Project may also be written in English.
The workload required for the preparation of the Final Project is approximately 75 hours, corresponding to 3 ECTS credits.

Each student is assigned a Supervisor with whom the topic of the Final Project is agreed. The Supervisor and the topic are normally chosen freely by the student in consultation with the faculty members.

Students must submit their request online through the dedicated procedure available in their personal page on the Teaching Portal, in the section "Degree and Final Examination", in compliance with the deadlines for the session of interest published in the Student Guide – Thematic Calendar section.

The Final Project, consisting of a written report of at least 20 pages, must be delivered to the Supervisor in printed form (A4 paper) and on CD in PDF format. Upon completion of the work, the Supervisor's approval, together with the successful completion of all exams, will allow the student to participate in the relevant graduation session. The graduation ceremony, held in a public session, will take place according to the schedule set by the University.

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.