

SALONE DELL'ORIENTAMENTO 2026

CORSO DI LAUREA

CIVIL AND ENVIRONMENTAL ENGINEERING

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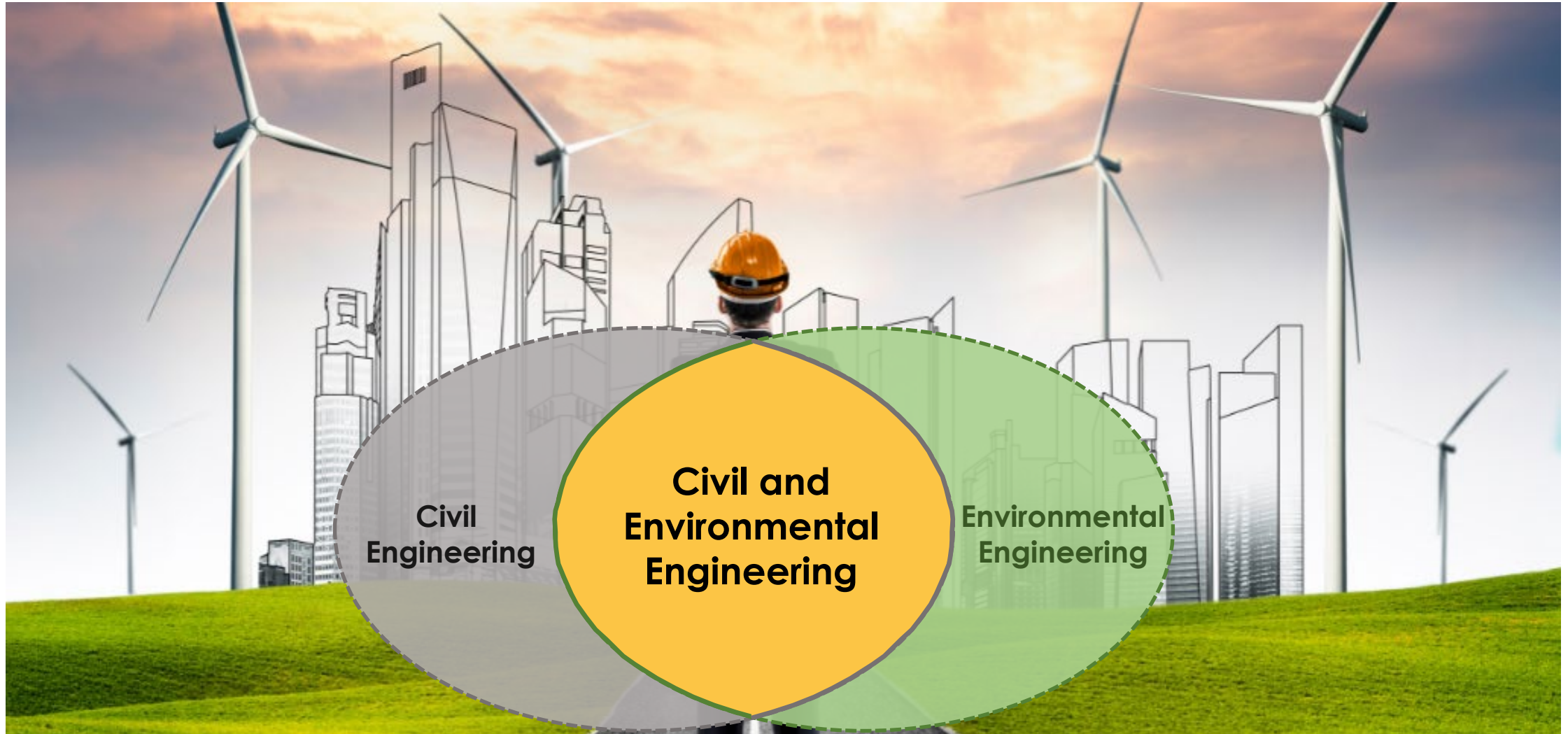
**Politecnico
di Torino**

**SCOPRI TUTTI I
CORSI DI STUDIO
A.A. 2026/27
www.polito.it**



Civil and Environmental engineers

design sustainable civil structures and infrastructures
to tackle global challenges like climate change and resource management.



Civil & Environmental Engineer. The role within society.

What you will learn

Characterising skills

- Design, management and maintenance of **Civil structures** and **Infrastructures**
- Design and maintain plants for the treatment of gaseous, liquid and solid **waste in industry**
- Knowledge of **Circular economy** and its application for **the remit of natural resources and energy**

Soft Skills

- Teamwork and collaboration
- Ethical and Environmental Awareness
- Time Management and Organization
- Critical thinking and Decision Making
- Problem solving
- Adaptability and Flexibility

Work

Civil and industrial structures

Large-scale works

Infrastructures

Environmental and territorial systems and plants

Why to be Civ. & Env. Engineer

Interact with the Environment

Society Development

Impact on the Economy

Eco-sustainability impact

Role awareness

The Civil & Environmental Engineer's technical background

1 CFU (University Educational Credits) = 25 hours of study (of which 10 hours class lectures)

Elective courses
Internship/Final Project

(13 CFU)

Specific courses

Geology
Environmental Engineering
Science and technology of materials
Theoretical mechanics
Fluid mechanics
Structural mechanics
Geotechnics
Sustainability and Circular Economy
Topographic and Geophysical Land Surveying
Bim-based design process
Roads, Railways and Airports/Water infrastructures
Structural Engineering

(106 CFU)

English language

(3 CFU)

Fundamental courses

Mathematical analysis
Linear algebra / Geometry
Physics
Chemistry
Computer sciences

(58 CFU)



Full Curriculum

1st year

Course	Credits
Chemistry	8
Computer sciences	8
English Language 1st level	3
Mathematical analysis I	10
Geology	6
Linear algebra and geometry	10
Physics I	10

+55

2nd year

Course	Credits
<u>Environmental Engineering</u>	10
<u>Mathematical analysis II</u>	6
<u>Physics II</u>	6
<u>Theoretical mechanics</u>	4
<u>Elective courses (Catalogue «Big Global Challenges»)</u>	6
<u>Fluid mechanics</u>	10
<u>Science and technology of materials</u>	6
<u>Structural mechanics</u>	10

+58

3rd year

Course	Credits
<u>Geotechnics</u>	10
<u>Sustainability and Circular Economy</u>	6
<u>Topographic and Geophysical Land Surveying</u>	10
<u>BIM-based design process</u>	14
<u>Free Elective courses 3rd year or Internship</u>	6
<u>Road, Railways and Airport/Water Infrastructures</u>	12
<u>Structural engineering</u>	8
Final Project	1

+67



180 CFU

Pathway to graduation



Didactic Approach

Projects and exercises

We use an **innovative teaching approach** in line with the principles of **'learning by doing'**, i.e. based on 'doing' rather than 'studying how to do'.



Politecnico di Torino Performance-Based Design of Contaminant Barriers

The performance-based design of contaminant barriers is aimed at minimizing the impact of pollutant migration on groundwater quality.

A typical performance criterion is that the pollutant concentration in the groundwater remains less than some prescribed threshold level at a compliance point in the aquifer (e.g., a monitoring well downgradient from the landfill).

Landfill
Leachate
Aquifer
Contaminant Plume
Point of Compliance

Data Gruppo

Politecnico di Torino PERFORMANCE-BASED DESIGN OF CONTAMINANT BARRIERS

POINT OF COMPLIANCE

variation in the groundwater is part analysis, which considers the waste or the pollutant from the waste or the pollutant to the point of compliance

The threshold concentration is related to a corresponding risk for human health and the environment through a toxicological model that takes into account the pollutant features and exposure paths

Politecnico di Torino Topographic survey

The main purpose of a topographic survey is to determine the relative positions of existing points or objects on Earth's surface and lay out the position of new points.

A plane survey considers only a relatively small area where the Earth's curvature is not considered, contrary to geodetic surveying.

Data Gruppo

Politecnico di Torino Geophysical Land Surveying

Detection of motion on the ground surface

Processing

Experimental dispersion curve: Phase velocity of Rayleigh waves vs frequency

Inversion

Variations of Shear Wave velocities with depth

$G_0 = \rho \cdot V_s^2$

Small Strain Stiffness profile (G_0 vs depth)

Data Gruppo

Politecnico di Torino Geophysical Land Surveying

Geofoni

Didactic Approach

Laboratory activity



Didactic Approach

Educational site construction visits and Field activities



Erasmus Programme

Expanding knowledge through International Experiences.

There is the possibility of undertaking study experiences abroad with the European Union's Erasmus+ programme. Both in **EU** countries, on specific agreements, and in **non-EU** countries.

UE countries



Student Teams

Projects designed and implemented by students



Project design: carried out in parallel with study commitments.

Skills enhancement: cultural, technical and managerial.

Instrument of aggregation: outstanding for student and social cohesion.

Challenge and creativity: students accept the challenge with creativity, desire to achieve and enthusiasm.

Formative and personal growth: formative growth is combined with personal growth.

Heterogeneity of groups: composition of groups with students from different courses of study and from numerous countries.

Added value: a plurality of skills and knowledge amalgamating, representing added value to the project.



Internships

Professional experience

You will have the opportunity to do **an internship in Italy or abroad in public or private institutions**

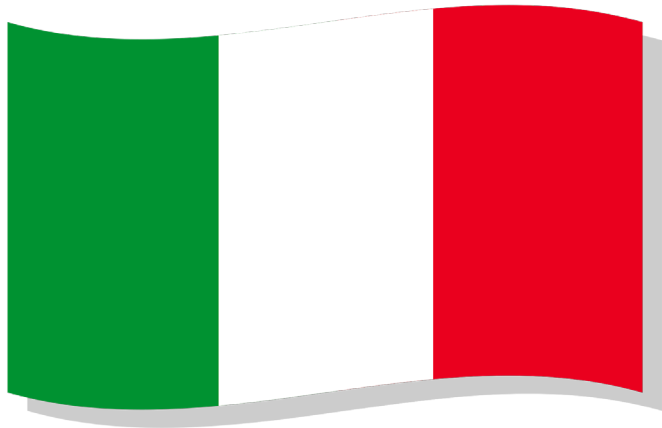
- professional engineering and architectural firms design company
- construction companies
- public administrations
- transport concession companies or other utilities
- Universities and research centres



Language extra courses

Italian language courses for foreign students

An opportunity for further collaboration and job in the Italian public administration and private societies.



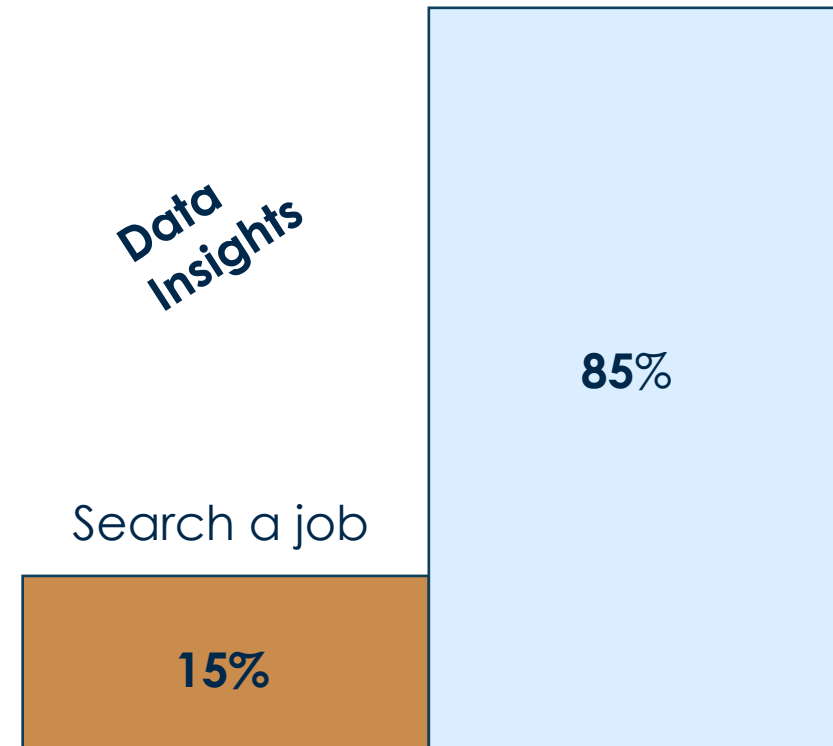
The **Italian courses** @PoliTo are held by teachers from Società Dante Alighieri, an institution which preserves and spreads Italian language and culture throughout the world, qualified to deliver Italian language and culture courses in various countries. Teachers from Società Dante Alighieri are specially trained by the Society to prepare students for the PLIDA exam (<https://plida.it/>).

After graduation

Job or Master's degree?

- Professional freelancer, Register in the Professional Register of Engineers (section B - junior engineer) after you pass the State Examination for Professional Practice (Esame di Stato)
- Public technical offices
- Private technical offices
- Construction and engineering companies
- Continuing studies in the Master's Degree Course in **CIVIL ENGINEERING** or **ENVIRONMENTAL AND LAND ENGINEERING**

Continue with a Master of Science



Source : AlmaLaurea

Thank you for
your attention