Civil Engineering deals with the planning, design, construction, assessment, monitoring, maintenance and management of structures and infrastructures, including buildings, bridges, tunnels, dams, water collection, distribution and drainage systems, transportation systems such as roads, railways, harbors, airports, and other engineering works that play a fundamental role for the economic growth and sustainable development of the modern society and resilient communities.

The realization of these civil engineering systems requires the capability to face complex challenges related to the rapid change of global socio-economic processes. This implies the fulfillment of continuously increasingly safety and functionality requirements and the sustainable usage of natural resources, which may significantly affect both the economy and environment over time, involving future generations.

The Bachelor programme (BSc) in Civil Engineering aims at providing future professionals with sound theoretical principles of mathematics, physics, chemistry and computer science, together with the fundamentals of the core subjects of Civil Engineering (including surveying, mechanics of fluids, solids, soils and structures, structural design, hydraulic engineering works, transportation, infrastructures).

WHAT DOES A CIVIL ENGINEER DO?

Concept Generation
Planning and Design
Construction, Operation and Maintenance over the Life-Cycle

STRUCTURES AND INFRASTRUCTURES
- Buildings
- Bridges
- Tunnels
- Dams
- Water collection, distribution and drainage systems
- Transportation systems (roads, railways, harbors, and airports)
EDUCATIONAL PROGRAM: LAUREA (BACHELOR OF SCIENCE)

1st YEAR
(7 Exams)

2nd YEAR
(6 Exams)

3rd YEAR
(7 Exams, including 2 elective courses)

DEGREE

TOPICS

BASIC DISCIPLINES
- Mathematics
- Geometry
- Physics
- Computer science
- Chemistry
- Rational mechanics

CORE DISCIPLINES
- Surveying and data processing
- Structural mechanics
- Hydraulics
- Geotechnics
- Structural design
- Hydraulic engineering
- Construction of roads, railways, and airports

ENTERING THE JOB MARKET

MASTER OF SCIENCE EDUCATIONAL PROGRAM
Laurea Magistrale (Master of Science)

1st YEAR (5 Tracks)

2nd YEAR (5 Tracks)

Master of Science Degree

Doctoral Programs

Post-Graduate Master Programs

Entering the Job Market

5 Tracks

The 2-year Master of Science program offers five tracks which allow graduate students to specialize in different sectors.

Earthquake Engineering: seismic design of new structures, assessment and retrofit of existing structures, effect of surface geology on earthquake ground motion.

Structures: structural design and assessment of civil and industrial buildings, large structures, bridges, structural components for industrial plants.

Geotechnics: foundations, retaining walls, tunnels, underground pipelines, stability of slopes and excavations.

Hydraulics: free surface water and groundwater, use and management of water resources, hydraulic protection of land, civil and industrial plants.

Transportation Infrastructures: design, construction, and management of roads, railways, harbors, airports.
CIVIL ENGINEERING AT POLITECNICO DI MILANO
EXCELLENCE IN EDUCATION AND RESEARCH

OVERALL SCORE 92.8%
ACADEMIC REPUTATION 88.4%
EMPLOYER REPUTATION 99.1%
CITATIONS PER PAPER 89.1%
H-INDEX CITATIONS 95.6%

EMPLOYMENT RATE 95%
1 year after graduation, net of students

EMPLOYED WITHIN 6 MONTHS 89%
Calculated on employed after 1 year from graduation

NET MONTHLY SALARY €1.587

TOP 5 SECTORS

<table>
<thead>
<tr>
<th>Sector</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering</td>
<td>30%</td>
</tr>
<tr>
<td>Building and Construction</td>
<td>21%</td>
</tr>
<tr>
<td>Transports and Logistics</td>
<td>18%</td>
</tr>
<tr>
<td>Metallurgy and Metalworking</td>
<td>7%</td>
</tr>
<tr>
<td>Business Consultancy</td>
<td>3%</td>
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</tbody>
</table>

EMPLOYMENT STATUS

<table>
<thead>
<tr>
<th>Status</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee</td>
<td>71%</td>
</tr>
<tr>
<td>Self-employed</td>
<td>29%</td>
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</tbody>
</table>

CONTRACT TYPE

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent</td>
<td>45%</td>
</tr>
<tr>
<td>Fixed-term</td>
<td>32%</td>
</tr>
<tr>
<td>Apprenticeship</td>
<td>16%</td>
</tr>
<tr>
<td>Internship</td>
<td>7%</td>
</tr>
</tbody>
</table>

COMPANY SIZE

<table>
<thead>
<tr>
<th>Size</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 250</td>
<td>68%</td>
</tr>
<tr>
<td>251 - 1,000</td>
<td>14%</td>
</tr>
<tr>
<td>+1,000</td>
<td>18%</td>
</tr>
</tbody>
</table>

Source of employment data: CareerService - Politecnico di Milano (2019)
REQUISITES AND APPLICATION PROCEDURE

In order to enter the degree program, an entrance test (Test On Line) shall be carried out during sessions predefined by Politecnico di Milano. Alternative tests accepted by Politecnico di Milano include SAT-GRE or GMAT above the minimum required.

https://www.polimi.it/en/international-prospective-students/
https://www.poliorientami.polimi.it/come-si-accede/ingegneria