MSc in Materials and Production Engineering
The MSc in Materials and Production Engineering trains engineers to produce and manage technology innovation and to work as high-level technicians and managers, in areas requiring a deep knowledge of base sciences and engineering, with particular attention paid to the customisation, processing, development and design of materials, and similar topics.

Graduates will master technologies, devices, systems and infrastructures for the production, customisation and design of traditional and innovative materials, their use in specific applications of the industries in the field of chemistry, mechanics, textiles, optics-electronics, biotechnologies and, more in general, for the development and the production and use of goods and services.

The four available curricula (Manufacturing and Product Development; Energy, Environment and Sustainable Development; Bio-related and functional materials; Processes Management and Optimization) are aimed at training four different professionals and make them ready for the job market.
Programme overview

Degree awarded
Master of Science - “Laurea Magistrale” - in Materials and Production Engineering

Workload
120 ECTS = European Credit Transfer System

Intake
September each year

Language
English

Duration
2 years full-time

Fees and funding
(approximate range)

- EU: 340€ - 3.400€ (based on income/merit)
- Non-EU: 1.000€ - 4.500€ (based on merit)
- Income/merit based scholarships and tuition waivers available
Admission

Application deadlines (check online for updates)
• February for non-EU citizens living outside Italy
• From June to November: rolling admission for EU citizens and non-EU citizens regularly living in Italy

How to apply
• Access the online application form
• Upload the required documents
• Submit your online application by the deadline
• Check online for more information and updates: www.unitn.it/mastermaterials

Requirements
• Bachelor’s degree (or equivalent) in Industrial Engineering or related field
• English at B1 level of the Common European Framework of Reference for Languages

Selection criteria
• Academic curriculum
• Transcript of records
• English language knowledge
• Curriculum Vitae
• Statement of purpose
Study Plan

MSc Students of Materials and Production Engineering can choose one of four curricula:

- **Manufacturing and Product Development** aims at training experts in Materials Engineering, with deep knowledge of production and processing technologies, on the mechanisms of damages during while operating and on the planning tools and methods used in the manufacturing industry for the optimisations of current processes and products, and for the development of the innovative products.

- **Energy, Environment and Sustainable Development** aims at training experts in Materials Engineering highly skilled in materials and processes for production and transformation of energy, the reduction of energy consumption through innovative materials and technologies, the reuse and recycling to reduce the environmental impacts of the processes of material production and transformation.

- **Bio-related and functional materials** focus on the engineering and use of materials for biomedical and functional applications, also with reference to "bioinspired" and "biomimetic" materials. The basic subjects of the master's course are completed with specific courses on materials applications which have increasingly acquired scientific and applicative importance.
Processes Management and Optimization

combines subjects of the sector of Operational Research and Industrial Management aimed at training professionals capable to effectively manage production processes and optimise the use of materials, taking into account both scientific and technological features, as well as economic and organisational elements.

For all curricula

- Elective courses
- Other activities
- Final thesis

Extracurricular activities (for all curricula)

Activities related to the Career Boosting Program:

- Company tours
- Company presentations
- Company awards and scholarships
This Master's course offers its students the opportunity to participate in joint Double Degree programs with the following universities:

- Instituto Superior Técnico, Lisboa (Portugal)
- Technische Universität München (Germany)
- Ecoles Centrales Lille/Lyon/Nantes/Marseille, CentraleSupelec-Paris (France)
- EIT Raw Materials Sustainable Materials, KU Leuven (Belgium), INP Grenoble (France), Montanuniversität Leoben (Austria)
Career opportunities span from innovation and development of production, advanced planning and programming, management of complex systems, both as self-employment professionals and in manufacturing and services companies, as well as in public authorities.

Materials engineers may be employed in: chemical, pharmaceutical and processing industries; companies active in the production, transformation, transportation and storage of substances and materials; industrial laboratories; public administration offices for environment and safety management.

With the MS in Materials Engineering graduates will also be able to work as scientists, engineers or managers in many different industries, including R&D Departments of public and private institutions.

Graduates may pursue a PhD in Trento or at international level.