



# MEDTEC SCHOOL

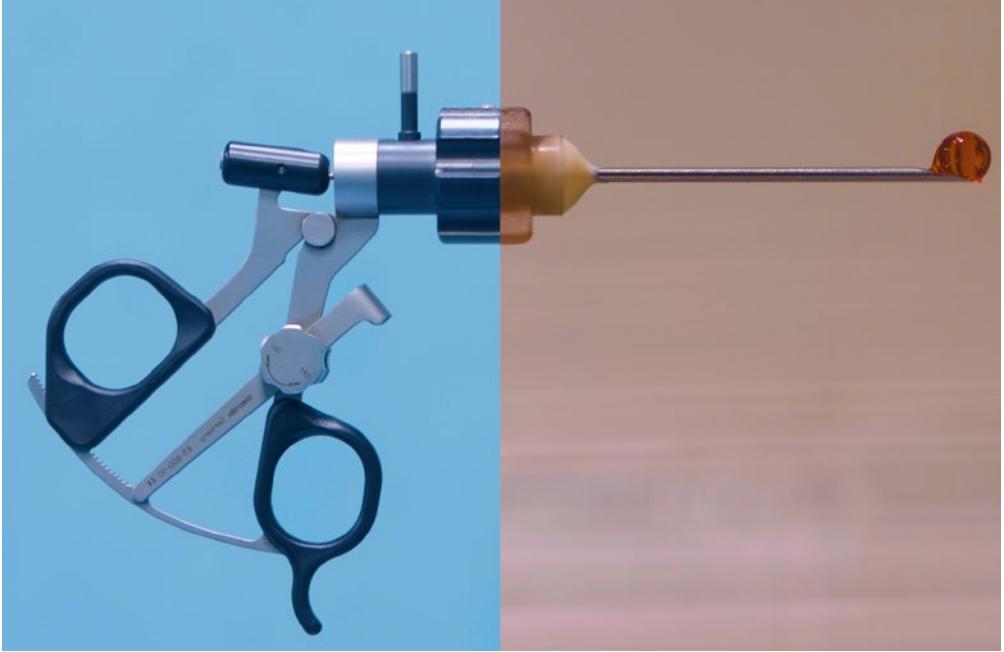
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**HU** HUMANITAS  
UNIVERSITY



POLITECNICO  
MILANO 1863





## Why choose MEDTEC School

This degree programme will enable you to **treat patients through the management of technological developments in Medicine and its related sectors**, including disease prevention and treatment, patient rehabilitation and the development of innovative diagnostic and therapeutic solutions.

The **integrated six-year training course** will allow you to obtain additional ECTS and be awarded a **Bachelor's Degree in Biomedical Engineering from the Politecnico di Milano, in addition to a degree in Medicine and Surgery**.

The six-year degree programme in Medicine and Surgery, held in English, is organised by Humanitas University in partnership with the Politecnico di Milano. The programme strongly focusses on

enhancing the medical skills of a doctor through the integration and acquisition of the basic competences and approaches relevant to Biomedical Engineering.

On successfully completing the degree programme you will:

- have gained in-depth **knowledge of advanced medical technologies** and be able to design personalised therapies through the use of complex technological systems for clinical evaluation, diagnosis and treatment
- be able to **optimise therapeutic outcomes** based on the potential of data analytics and machine learning techniques, the use of new materials and advanced therapeutic devices such as surgical robots, endo-prostheses, bio-printers and 3D printing
- have opportunities to **work in numerous medical fields**, e.g. biomedical device design, bio-medical technologies or in pharmaceutical industries.

# Integrated teaching

Humanitas University and the Politecnico di Milano promote interactive teaching and learning methodologies. These include **research-based learning, problem-based learning, problem solving, case methods and skill-based portfolios**. Such an approach guarantees a solid integration between theory and practice and the development of critical thinking. Classes aim to encourage student engagement and interaction, with a strong focus on group work through data collection, data management and follow-up discussions with the teaching staff, as in the case of the flipped classroom. The degree programme will include both single-subject courses and integrated course modules where academic teaching staff from Humanitas University and the Politecnico di Milano will be co-present in the classroom to ensure the **full integration of engineering skills with clinical training**. The same approach of co-tutoring will be further adopted during a number of medical professionalizing activities. **Years 1-3:** include opportunities for practical experience, internships, specialised laboratories and the acquisition of soft skills, key to the development of doctor-patient relationships.

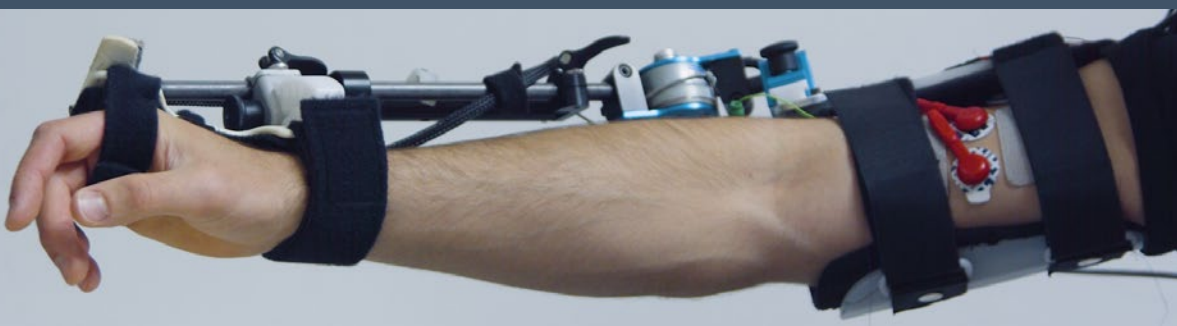
**Semester I:** the courses will be held

at the Politecnico di Milano.

**Semester II:** the courses will be held at Humanitas University (to facilitate student integration between the fields of Medicine and Engineering).

**Years 4-6 / Semesters I & II:** the courses will be held at Humanitas University (the modules are mainly dedicated to clinical training, professionalizing activities and use of the Simulation Center “Mario Luzzato” and other Humanitas hospitals).

A clinical experience in an outstanding teaching hospital to take on the challenges of personalized medicine. Humanitas is the first Italian general hospital to be quality-**certified as an Academic Hospital by Joint Commission International**. Harvard University considers it one of the 4 most innovative hospitals worldwide and is one of Harvard’s case studies thanks to its organisational model, which blends high-quality clinical practice, economic sustainability, development and social responsibility. The Research Centre is internationally renowned for its research on immune system diseases and is part of a network of excellence that includes New York University, the Université Catholique de Louvain in Belgium, the Spanish National Centre for Biotechnology in Madrid, the Queen Mary School of Medicine in London and the Pasteur Institute in Paris.



# Simulation Centre

The Mario Luzzatto Simulation Centre is a 2000 square metres state-of-the-art **Simulation Lab** which complements the academic teaching and learning activities to train healthcare professionals. **The first in Italy to integrate a hospital, a university campus, a simulation centre and a wet lab** to provide an outstanding experience. In the Simulation Centre **students are given the opportunity to integrate theoretical knowledge with practical skills** thanks to its emergency room, operating theatres, ambulatories, clinical and surgical skill rooms and multimedia booths.



# Milan: a door to the world

Students from all over the world can experience a distinctive education and training pathway on a state-of-the-art Campus but also **an extraordinary life experience** thanks to a warm and welcoming city. Milan combines science and culture, creativity and research, tradition and innovation, entertainment and services.



# Information

## HOW TO APPLY

To apply to the degree programme in Medicine and Surgery you must sit an **admissions test at one of our test centres around the world as indicated on the website**. The admissions test must be taken in the same year of enrolment. The online procedure to sign up for the test is quick and easy.

## ADMISSION REQUIREMENTS

- 12 years of education
- A high school/ secondary school diploma:
  - for students from the UK, at least 3 A-levels in scientific subjects
  - for students from the USA, at least 3 APs (Advanced Placements) in scientific subjects OR
  - having passed all exams in the first two years of college, or having passed all exams of the first year of college as well as 4 APs
  - For IB students: diploma obtained after 12 years of education

## ECTS

On completing your studies in Medicine with a **total of 360 ECTS if you have also acquired the 30 additional ECTS** during the six-year degree programme, you will be able to apply to the Politecnico di Milano for the issuance of the three-year degree award in Biomedical Engineering.

The programme includes the study of subjects to guarantee a solid background in physics, chemistry, mathematical analysis, computer science, electrical engineering, mechanics and industrial engineering.

## THESIS

In order to complete your degree you will be required to write a degree thesis, supervised by professors from the two Universities. **The thesis will involve the development of a project**, based on the application of the acquired multidisciplinary skills.

For more detailed information, please visit [www.hunimed.eu](http://www.hunimed.eu)



## Living and studying on a new university campus



The Campus, built in 2017, brings everything together in one place: the University, the Simulation Centre, the Hospital, the Research Centre and the Student House. Humanitas University lets you make the most of your university experience.

Humanitas University is **the only Life Sciences University in Italy that offers student halls of residence on its Campus**. The halls of residence are located in a park-like area just a few steps away from the University, the Hospital and the Research Centre. They include single and double rooms, laboratories, study areas, recreation areas, a gym, a library, a terrace, a garden, a café and a laundry room. In the many communal areas you can build new relationships, create new networks and share the many emotions and experiences of student life.

**Additional services include study support activities, language courses, recreational activities and social events.**

Join our international student community. Come and live in a comfortable, safe environment surrounded by everything you need!

# MEDTEC School

## Medicine, Science and Engineering

**M**EDTEC School is the new international **degree programme in Medicine designed and developed by Humanitas University and the Politecnico di Milano**. The new degree aims to integrate and strengthen the skills of the professional figure of the medical doctor with the skills relevant to Biomedical Engineering. On completion of the study programme, **medical graduates** can apply to the **Politecnico di Milano** for a **Bachelor's degree in Biomedical Engineering**.

**On graduating you can enter into Medical Specialty Schools, Medical Research or join industry directly**, i.e. biomedical devices and technologies or the pharmaceutical sector.

MEDTEC School trains **a new generation of professionals** to be up to speed with the new requirements and **able to manage innovative technologies and our advancing sciences**:

- Robotics
- Data science
- Artificial Intelligence
- Biostatistics
- Omics
- New materials
- Simulators and VR
- Nano-technologies

**Innovation in medicine at the service of the patient.**





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