

UNIVERSITY MASTER'S DEGREE IN  
**Bioengineering  
for Human Health**





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Soledad Perez Amodio

**The Master in Bioengineering for Human Health** at UIC Barcelona is designed to train the next generation of leaders in technological innovation applied to healthcare. With a patient-centered and multidisciplinary approach, the programme integrates advanced knowledge of engineering and health sciences with hands-on training in cutting-edge areas such as biomaterials, nanotechnology, artificial intelligence, and regenerative medicine. Students gain a robust foundation in research and entrepreneurship, empowering them to tackle real-world challenges in hospitals, research centres, and the industry.

This programme is tailored for graduates in Bioengineering, Biomedical Engineering, Industrial Engineering, Materials Engineering, or Chemical Engineering who **aspire to specialise in the application of advanced technologies to healthcare**. It is ideal for those seeking an interdisciplinary and practical education to lead innovative projects in hospitals, research centres, or biomedical companies, with a focus on personalised and sustainable solutions that enhance quality of life.

Choosing this master at UIC Barcelona means **joining a globally recognised, official programme that provides access to doctoral studies**. The curriculum is supported by the Bioengineering Institute of Technology (BIT), offering state-of-the-art resources, a distinguished faculty, and opportunities for international mobility. It prepares students to become professionals in high demand, equipped with the skills to transform healthcare through technology and innovation.

## Who Is It For?

This programme is tailored for graduates in Bioengineering, Biomedical Engineering, Industrial Engineering, Materials Engineering or Chemical Engineering who aim to:

- Apply advanced technologies to healthcare challenges.

- Specialise in interdisciplinary and practical innovation projects.

- Lead transformative initiatives in hospitals, research centres, or the biomedical industry.

## Why choose this Master's Degree?

### Official Programme with International Recognition

This is an officially recognised master's programme, opening the door to doctoral studies and ensuring international acknowledgment.

### Patient-Centred Innovation.

A unique approach combining advanced engineering techniques with a focus on real-world healthcare applications.

### Practical and Research-Driven

The programme includes practical experiences in labs, real-world projects, and collaborations with prestigious international institutions.

### Expert Faculty and Cutting-Edge Resources

Learn from leading academics and practitioners in bioengineering, supported by the Bioengineering Institute of Technology (BIT).

## MANAGEMENT AND ACADEMIC COORDINATION

### Director

#### Miguel Ángel Mateos Timoneda

Degree in Chemical Sciences and a PhD in Supramolecular Chemistry. Deputy Director of the Department of Bioengineering, Principal Investigator at the Institute of Technological Bioengineering, and Professor at the Universitat Internacional de Catalunya (UIC Barcelona).

### Coordinator

#### Soledad Perez Amodio

Degree in Biochemistry and PhD in Cellular and Molecular Biology. Researcher at the Institute of Technological Bioengineering and teacher at the Universitat Internacional de Catalunya (UIC Barcelona).

## Job Opportunities

Graduates of this master's degree will have access to a broad range of career opportunities, including:

### Biomedical Device Design and Development

Create advanced prosthetics, precision diagnostic systems, and tailored medical devices.

### Innovative Materials and Nanotechnology

Engage in research and production of biomaterials, artificial organs, and antibacterial surfaces.

### Hospital Process Optimisation

Implement cutting-edge solutions such as robotics, big data analytics, and advanced sensor systems.

### Research and Development

Contribute to breakthroughs in cellular biology, regenerative medicine, and artificial intelligence applications for healthcare.

### Regulatory and Technical Consultancy

Provide expertise in compliance with international standards for the healthcare sector.

### Entrepreneurship in Bioengineering

Lead startups or develop innovative healthcare technologies, such as wearable devices or 3D-printed implants.

# CURRICULUM - 60 ECTS

## MODULE 1

### Advanced Technologies For Health

- New strategies in Regenerative Medicine and Medical Devices
- Advanced Technologies for Biomaterials Structures Fabrication
- Nanotechnology and Nanomaterials in Medicine
- Bioengineering Strategies against Bacterial Infections
- Biological and Cellular Therapy
- Data analysis and computation
- Big Data and Artificial Intelligence
- In Silico Modelling and Design-
- Medical Imaging Processing for Diagnosis

## MODULE 2

### Methodologies for Research

- Forensic Bioengineering: Fails in Bioengineering
- Forefront Knowledge in Bioengineering
- Advanced Methodologies for Research

## MODULE 3

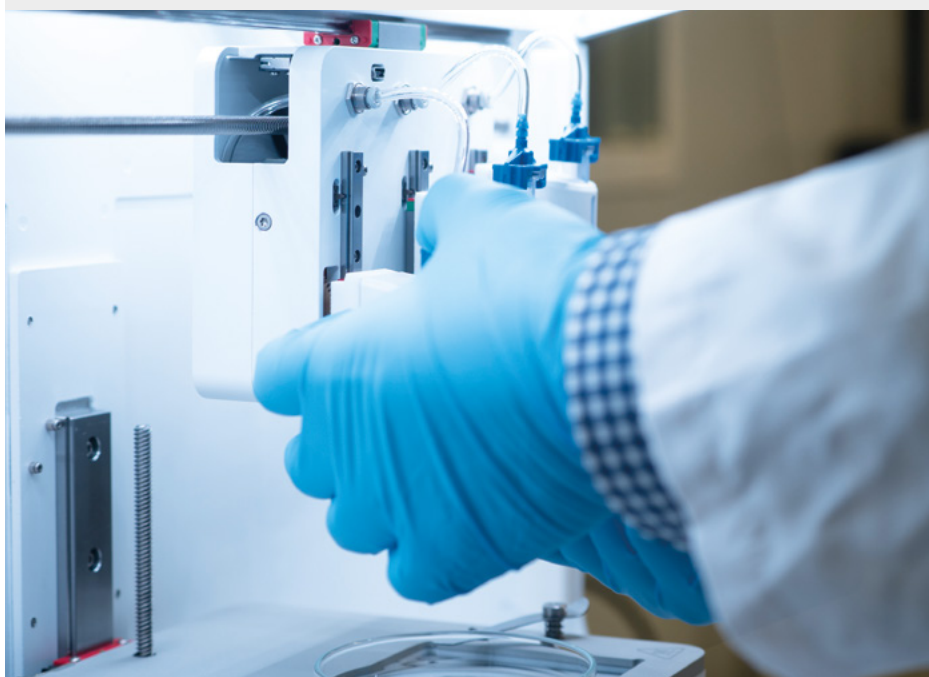
### Methodologies for Industries/Hospitals

- Regulatory Aspects of Drugs and medical devices. Clinical Trials
- Business Administration and Health Management
- Entrepreneurship

## MODULE 4

### Final Master's Degree Project

- Development of an innovative Bioengineering Project
- Applied Research in the medical sector
- Presentation of the project and Panel defense



#### UNIVERSITY

UIC Barcelona  
Sant Cugat Campus

#### Schedule and timetable

- October to July
- On-campus classes
- Monday to Friday,  
every afternoon

#### Language

English

**Get in touch with  
your advisor**



## STUDYING IN BARCELONA

Start the most important learning experience of your life in one of the main European cities. Barcelona is a cultural and financial role model and a city where your knowledge can adapt to multiple professional opportunities.



## UIC BARCELONA, OUR CAMPUSES

Classes are held on our Barcelona campus and also our Sant Cugat campus, which has a total area of more than 52.000 m<sup>2</sup>. Each Faculty has the best facilities and latest generation equipment for both theoretical and practical classes.




Find out more about the admissions procedure, reserving a place and enrolment here [uic.es/masters](https://uic.es/masters).

## RANKINGS

The main rankings in which the Universitat Internacional de Catalunya has been classified.



Find out here about all our rankings.

 #801-1.000
 #374
 #13

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