

**Lifelong Learning  
Master's Degree in**

# **BIO INFORMATICS & AI FOR HEALTHCARE**

*Preparing graduates  
to join research teams  
and pharmaceutical  
and biotech companies*

Universitat Internacional  
de Catalunya  
**Faculty of Medicine  
and Health Sciences**



The master's degree is intended for recent graduates and early-career professionals seeking to enter the emerging field of bioinformatics and AI in healthcare, a rapidly growing sector with strong scientific and professional prospects.

The programme offers a solid theoretical and practical foundation, preparing graduates to join **research teams and pharmaceutical and biotech companies**. It is designed to bridge the gap between life sciences and computer science, training the hybrid professionals that the healthcare industry urgently needs.

## WHY TAKE THIS MASTER'S DEGREE?

- **Interdisciplinary and future-oriented training:** Acquire a unique combination of skills in biology, AI, data analysis and digital health.
- **High employability in a growing market:** The biotech, pharmaceutical and health-technology industries are expanding rapidly and urgently need professionals capable of analysing and interpreting complex biomedical data.
- **Strong practical orientation:** Work on applied case studies and complete a full semester of professional placements in biomedical organisations, gaining direct experience with real clinical and research data.
- **Direct impact on healthcare innovation:** Contribute to advances in precision medicine, AI-assisted diagnostics, personalised treatments and the digital transformation of healthcare systems.
- **Multidisciplinary collaboration:** Develop essential communication and teamwork skills to collaborate effectively with clinicians, engineers, researchers and industry professionals in diverse biomedical environments.

### Intended for:

Graduates in Health Sciences, Biology, Biotechnology, Bioinformatics, Biomedical Engineering, Computer Science or related disciplines who are looking for interdisciplinary training that combines biology, technology and data analysis.

It is also aimed at active professionals in the healthcare or technology sectors who wish to specialise or redirect their careers towards biomedical innovation, digital tool development or data-driven health research.

### Professional careers

- Biomedical data analyst.
- AI and algorithm developer.
- Clinical bioinformatics specialist.
- Digital health innovation consultant or manager.
- Health data engineer.
- Researcher in bioinformatics or AI applied to biomedicine.
- Entrepreneur in biotechnology or digital health.

## PROGRAMME DIRECTOR

### Uciel Chorostecki

Principal Investigator, RNA Computational Biology Group. Ramón y Cajal Research Fellow.

### Academic teaching staff

#### Sebastián Rodrigo Najle

Programme Lecturer.  
Principal Investigator, Comparative Cell Biology Group. Ramón y Cajal Research Fellow.

#### Nicolás Aira

Programme Lecturer.

### ACADEMIC ACCREDITATION Máster de Formación Permanente en Bioinformática e IA para la Salud por la Universitat Internacional de Catalunya

#### Organising centre

Faculty of Medicine and  
Health Sciences - Sant Cugat Campus

#### Dates and times

- September to June.
- 1st semester: Theory classes and lab work in the afternoons.
- 2nd semester: External work placements and Master's Degree Final Project.

**Language:** 100% English

**Format:** On-site

[Get in touch with your advisor](#)



## CURRICULUM - 60 ECTS - 1 ACADEMIC YEAR

### Foundations of Bioinformatics & Biomedical Informatics

(OB - 6 ECTS)

### Artificial Intelligence & Machine Learning in Health

(OB - 8 ECTS)

### Omics & Personalised Medicine

(OB - 6 ECTS)

### Clinical Informatics, Digital Health & Health Tech Innovation

(OB - 6 ECTS)

### Advanced Topics in AI for Healthcare

(OB - 4 ECTS)

### External Work Placements

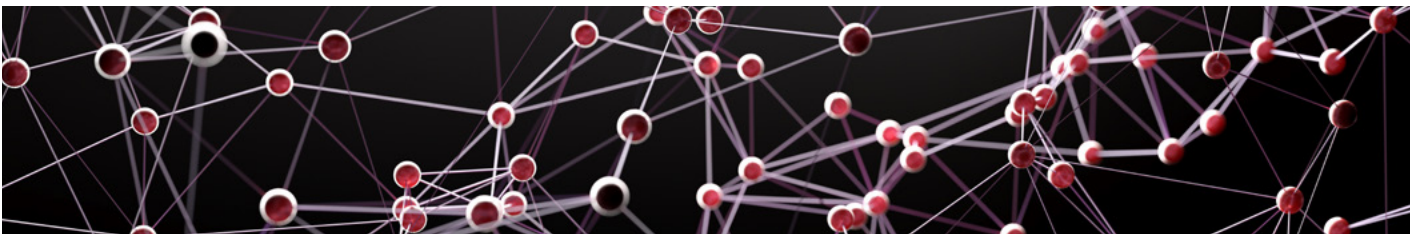
(PR - 22 ECTS)

### Master's Thesis

(TF - 8 ECTS)

## OBJECTIVES:

- Understand the current context and challenges of bioinformatics and AI in healthcare.
- Apply generative artificial intelligence techniques to accelerate and optimise drug discovery and development.
- Acquire practical skills to design and carry out biomedical data analysis projects in various professional environments.
- Develop critical thinking and evaluation skills for biomedical research and innovation workflows.
- Become familiar with the data-driven healthcare value chain, from data generation and management to clinical and industrial application.
- Master the use and analysis of large biomedical datasets, combining technical, scientific and ethical knowledge to drive innovative AI-based solutions.



## STRONG PRACTICAL FOCUS

The programme combines applied case studies in the first semester with a professional work placement in partner biomedical companies during the second semester.

### KEY FEATURES:

External work placements take place in the second semester and do not overlap with the theory classes delivered in the first term.

- **500 contact hours**, with the remaining 50 hours dedicated to supervision and preparation of the final report.
- **Work placements are carried out** during regular working hours (approximately 9 a.m. to 6 p.m.).
- **Possibility of signing a work placement agreement** with other institutions in your home country.





## 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 53,000 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). Click on [uic.es/grants](https://uic.es/grants) for information about financial aid, discounts and grants.

### RATING



### RANKINGS



FIND ABOUT  
ALL OUR  
RANKINGS

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