



UNIVERSITAT DE  
BARCELONA

# MASTER in BIOMEDICINE



## Coordination:

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**60 ECTS**

Collaboration between the faculties of:

- Medicina i Ciències de la Salut (Campus Clínic and Campus Bellvitge)
- Farmàcia (Campus Pedralbes)
- Biologia (Campus Pedralbes)

The master's degree in Biomedicine is primarily focused **on basic and applied research**

- **Advanced training** and updating of knowledge of the molecular and cellular mechanisms involved in the pathophysiology of diseases
- **Qualifies graduates to enter a PhD program** in biomedicine related areas
- Qualifies graduates for careers in the fields of biomedical research, clinical analysis and in the pharmaceutical and biotechnology industries, for which a PhD or official specialist health sciences qualification would not be required

Addressed to students who have completed a degree in the field of **health sciences, biological sciences (including biotechnology) and experimental sciences\*** (chemistry and physics).

\*In some cases, a previous course of Principles of Cell Biology and Molecular Biology in Genetics and Pathophysiology (6ECTS is needed). (aprox2 weeks in September)

## 2 Specializations

1. Basic and translational research in **human pathologies**
2. ~~Basic and translational research in **cancer**~~ (new master of **Cancer Research**)
3. Basic and translational research in **endocrinology and metabolism**

### 1st semester

- 3 compulsory subjects for all specializations (total 9 ECTS)
- 4 compulsory subjects of each specialization (total 12 ECTS)
- 3 optative subjects (total 9 ECTS)

### 2º Semester

- Conducting Research Projects 3 ECTS
- Final Master thesis 27 ECTS**

## 12 ECTS compulsory for all specializations

1. Experimental Models in Biomedicine; 2. From Bench to Bedside: Translation to the Clinic of Advances in Biomedical Research; 3. Scientific Communication; 4. Conducting Research Projects

## 12 ECTS Compulsory of each specializations

### Basic and translational research in human pathologies

Molecular Principles in:

- Cancer Research
- Metabolism and Endocrinology
- Infectious Disease and Immunology
- Neurobiology

### Basic and translational research in endocrinology and metabolism

- Molecular and Cellular Principles and Pathophysiology of Diabetes
- Molecular and Cellular Principles and Pathophysiology of Obesity
- Arteriosclerosis, Dyslipidaemia and Cardiovascular Disease
- New and Translational Therapies in Metabolic Disease

## 9 ECTS Optative

### Methodologic

Genomics and Proteomics  
Cell Cultures and Cell Engineering  
Histopathology Techniques

Fluorescence Microscopy Techniques  
High content screening: image and data analysis of cell populations  
Bioinformatics applied to Biomedicine

### Non- Methodologic

Ageing and Senescence  
Epigenetics: Mechanisms and applications in Biomedicine

Stem Cells and Regenerative Medicine  
Research, Development and Innovation Management

## Where should I do the final master thesis (TFM)?

- **Choose a group in the list offered in the master web (*placements* link in the web page)**

**There are more than 100 offers of research groups to perform the TFM (look at the master's WEB page).**

**They belong to the following Faculties or Institutes.**

- ✓ Facultat de Medicina i Ciències de la Salut; Campus Clínic, UB
- ✓ Facultat de Medicina i Ciències de la Salut Campus Bellvitge, UB
- ✓ Facultat de Biologia, UB
- ✓ Facultat de Farmàcia, UB
- ✓ IDIBAPS Research Institut
- ✓ IDIBELL Research Institut
- ✓ Josep Carreras Leukaemia Research Institute (IJC)
- ✓ Institut de Recerca Sant Joan de Déu (IRSJD).
- ✓ Vall d'Hebron Institut de Recerca – VHIR.
- ✓ ICO Institut Català d'Oncologia
- ✓ Germans Trias i Pujol Research Intitute – IGTP
- ✓ .....

- **Search and propose yourself to us a group labs in any the research institution in Barcelona, Catalunya, Spain**
- **Search and propose a group in Europe (Erasmus + Programme link in the web page)**
- **Choose a group between the list of Coimbra associated universities (web page)**

## When should I choose the group for the TFM?

- Having a group admission already during the application to the master give you some points
- If you have very good grades of the degree, you will be accepted without having a group and you have time to choose the group after enrolling the master (but you can start now)
- If you have less than 7 of score of your degree, is better to have the admission to a group to ensure acceptance to the master

## IMPORTANT ASPECTS FOR THE PREINSCRIPTION

Attach:

### **Mandatory:**

-Transcript grades. If your university is not Spanish you need to attach the Spanish equivalence from ANECA

-CV

### **-Optional:**

Letter of a group accepting you in the lab to do the TFM. Recommended if your grades are lower of 7.