Master in Biomedical Sciences

BA1

BA2

BA3

Master à Finalité approfondie

Bloc 1

Bloc 2

Specialized Master in Translational Medicine

Bloc 1

Bloc 2

Master 60 in translational medicine
(1 year, full English)
The Master in Biomedical sciences is divided into two tracks: “Approfondie” and Specialized (Translational medicine). The first year of the Master (Bloc 1) is common to both tracks, while the second year (Bloc 2) is specific to each of them.

The Master in translational medicine will provide insights on the different disciplines involved in the complex process of translating advances from preclinical research into new therapeutic or diagnostic approaches. They will also show how patient-centered strategies can contribute to the development of patient-tailored therapeutic strategies.
In Bloc 2 the courses are organized in 3 modules (teaching units) given in English that cover different aspects of translational research.

1) Basics of Preclinical and Clinical Research

2) Translational Research in selected disease areas

3) Interfaculty Interuniversity Program in translational medicine
Master in Translational Medicine (Structure of BLOC 2)

1) Basics of Preclinical and Clinical Research
2) Translational Research in selected disease areas
3) Interfaculty Interuniversity Program in translational medicine

Specialized courses in Translational Medicine

Complementary

General courses in Translational Medicine
1) Basics in Pre-Clinical Research (Content)

• Drug discovery and development
• Genetic validation of targets. Pharmacogenomics
• Translational safety
• Disease-relevant *in vitro and in vivo models*
• Experimental design and data analysis in preclinical research
• Systems biology
• Intellectual property
1) Basics in Clinical Research (Content)

- Ethical environment. Different types of Clinical Research
- Statistical basis for Clinical and Epi Research.
- Epidemiological modelling
- Basics of Clinical and epidemiological study design
- Regulatory oversight and influence
- Safety and adverse events
- Biobanks and data base analysis
2) Translational Research in selected disease areas

• This module is dedicated to the discussion of translational case studies on different disease areas including Immunology, Oncology, Diabetes, Cardiology/Pneumology, Gastroenterology and Neurology.

Taking as starting point the current challenges and unmet needs related to a certain pathology, these interactive courses will, through the discussion of successful and failed key case studies, provide a comprehensive understanding of the translational research process from patient-oriented fundamental research into clinical trials.

The experimental, ethical and economic challenges related to the translational approach will be discussed. These courses will also illustrate how patient-derived data can effectively contribute to improve knowledge and the development personalized therapeutic approaches. Each disease area has its own expert coordinator that will cover the courses by themselves, or invite expert speakers from academia, and stakeholders from the public and industrial sectors who will share their professional experience in different areas of healthcare and medical innovation.
The objective of the course is to prepare the next generation of healthcare professionals to be able to face new challenges of precision patient-centric practice. We provide them with a basic knowledge and a holistic vision of the complex processes that translate scientific advances into novel standards of care.

The course consists of interactive sessions led by experts from academia, public health organizations, private companies and patient representatives. Through lectures, quizzes, workshops and an online learning platform students can achieve competencies which address a variety of scientific, business, management and social issues.
Topics covered during the course include:

- The main strategies and tools for the prevention and treatment of disease states
- The main types and principles of healthcare systems worldwide
- The basic principles of healthcare economics and management
- The multiple steps and key principles in the development of health technologies
- The basics of data and knowledge generation in healthcare
- The innovation models and career opportunities in healthcare