Master en sciences biomédicales (60 crédits)

Cette formation est enseignée en anglais.

Mnémonique du programme
MA60-BIME

Type d'études
Master 60 crédits

Langue de l'enseignement
anglais

Horaire
journée

Catégorie / thématique
Santé / Sciences biomédicales et pharmaceutiques

Campus
Erasme

Objectif des études
Personalized medicine aims to transform healthcare by tailoring therapies to the individual characteristics and needs of each patient. This requires an efficient translation of fundamental research findings into standard care. The short master in translational medicine is a one-year (60 credits), full English programme designed to train students in medical and biomedical sciences or associated areas on how to apply relevant findings derived from fundamental research into newly patient-oriented diagnostic approaches and therapies. This program offers substantial formation in pre-clinical and clinical aspects of the personalized medicine, as well as fundamental knowledge and interdisciplinary skills necessary to interact with experts and colleagues from a wide range of disciplines that will shape the future of medicine.

Les + de la formation
The MA in Biomedical sciences (60 credits) is inspired by new initiatives aiming to develop translational research programs to foster the transfer of scientific preclinical knowledge into clinical practice to make personalized medicine became a reality. Taught exclusively in English, the MA 60 will allow non-French speaking students to extend their basic training and to prepare a doctorate in one of the Faculty’s laboratories and/or an internship in one of our hospital services. Moreover, by attending the Interdisciplinary and interfaculty program in Translational medicine, students will have professional opportunities through contacts with stakeholders from public institutions and private companies.

Méthodes d'enseignement
During the first quadrimester, the courses will be given by researchers active in the fields in different Academic laboratories of the Medicine Faculty. They focus their courses on concrete cases based on actual scientific research. The second part of the year is led by teachers from multiple faculties and stakeholders from public and industrial institutions who share with the students their professional experience in different areas of healthcare and medical innovation. Students will thus be prepared to start a career in various public or private professional environments.

International/Ouverture vers l'extérieur
Given in English and in one year only, this course offers to students a rapid way to access international careers in health institutions and companies.

Débouchés
The graduated students in Biomedical sciences - translational medicine will be able to pursue careers in health institutions and companies e.g: biotech and pharmaceutical industries, contract research organizations, governmental and non-governmental organizations (e.g. regulatory agencies), patient associations.
Important: to access a PhD training, the short-term Master must be accompanied/completed by a long-term (120 credits) Master’s degree in a relevant discipline. Of note, 45 credits of the short-term Master training can be validated in the program of the long-term Master in Biomedical sciences.

Contacts

https://medecine.ulb.be/version-francaise/contact

Président du jury
Isabelle PIRSON

Secrétaire du jury
Mariana IGOILLO ESTEVE
Master en sciences biomédicales (60 crédits)

During the first quadrimester, the students will foster their knowledge on the molecular aspects of pharmacology, clinical biology and pathology, genetics and oncology, developmental genetics, bioinformatics, and neurosciences.

During the second quadrimester they will achieve a Master thesis and attend:

- A unique interdisciplinary and interfaculty program in Translational medicine covering preclinical, clinical, regulatory, patenting, business, management and patient-focused topics.
- A module on pre-clinical and clinical research providing insights in state-of-the-art in vitro and in vivo research tools and methods to perform translational research and in the choice of adequate research models and proper experimental design. The module will also cover current and innovative technologies for drug discovery, in vitro and in vivo pre-clinical safety assessment of newly discovered drugs, and their validation through clinical trials. Intellectual property, clinical study design, quality control, as well as legal and ethical requirements in clinical investigation will also be discussed.
- A module on translational research in selected disease areas that will illustrate the bed-to-bench and back again (3B) principle of translational medicine through the approach of case-studies in relevant diseases.

**Année unique | MA60-BIME**

### Cours obligatoires

- **BIME-G5505** | Interfaculty and interdisciplinary program in Healthcare Innovation | Hilde STEVENS (Coordonnateur)
  - 5 crédits [cours magistral: 40h, exercices dirigés: 20h] | deuxième quadrimestre | Anglais

- **BIME-G5506** | Translational medicine in selected diseases areas | Mariana IGOILLO ESTEVE (Coordonnateur)
  - 5 crédits [cours magistral: 45h, exercices dirigés: 15h] | deuxième quadrimestre | Anglais

- **BIME-G5512** | Basics of pre-clinical and clinical research | William HAUSDORFF (Coordonnateur) et Hilde STEVENS
  - 5 crédits [séminaires: 60h] | deuxième quadrimestre | Anglais

- **BMOL-G4410** | Tools for the development of pharmaceuticals and other therapeutic modalities | Caroline VERHOEVEN (Coordonnateur), Ahmad AWADA et Joëlle NORTIER
  - 5 crédits [cours magistral: 36h, travaux pratiques: 12h] | premier quadrimestre | Anglais

- **BMOL-G4416** | quatrième quadrimestre inconnu

- **BMOL-G4417** | Genic expression and Oncology | Pierre HEIMANN (Coordonnateur), François FUKS, Cyril GUEYDAN et Carine VAN LINT
  - 5 crédits [cours magistral: 50h, exercices dirigés: 50h] | premier quadrimestre | Anglais

- **CHIM-G4311** | Clinical biology and pathology | Marie TRE-HARDY (Coordonnateur)
  - 5 crédits [cours magistral: 36h] | premier quadrimestre | Anglais

- **INFO-G4410** | Bioinformatics | Vincent DETOURS (Coordonnateur)
  - 5 crédits [cours magistral: 24h, travaux pratiques: 24h] | premier quadrimestre | Anglais

- **MEDI-G4411** | Neurosciences (part I) | Serge GOLDMAN (Coordonnateur), Alban DE KERCHOVE D’EXAERDE, David GALL et Jean-Marie VANDEWINDEN
  - 5 crédits [cours magistral: 55h] | premier quadrimestre | Anglais

- **MEMO-G5507** | Master thesis | Mariana IGOILLO ESTEVE (Coordonnateur)
  - 15 crédits [mfe/tfe: 200h] | 1er et 2e quadrimestre | Anglais