Master in Biochemistry and Molecular and Cell Biology
Focus Research (Charleroi)

The 2022–2023 programme is subject to change. It is provided for information purposes only.

Programme mnemonic
MA-BMOL
Focus Research (Charleroi): M-BMOLC

Exists also in
Focus Research: M-BMOLA
Focus Teaching: M-BMOLD

Studies level
Master 120 credits

Learning language
english and french

Schedule
office hours

Studies category / subcategory
Sciences and technics / Agronomy and bioengineering

Campus
Charleroi Gosselies, Plaine, Solbosch and UMons

Programme objectives
The ULB-UMONS Master in Biochemistry and Molecular and Cell Biology is organized in Charleroi. The lectures will be followed remotely, and the practical courses will take place in the laboratories of ULB in Gosselies or of UMONS. This Master focuses on the molecular and cellular understanding of organisms, both unicellular and multicellular. This programme covers many areas of life sciences such as biochemistry, cell biology, genetics, microbiology and molecular biology. In addition, this Master specifically addresses techniques related to molecular imaging.

Programme's added value
The ULB-UMONS Master in Biochemistry and Molecular and Cell Biology will allow:
- To build, develop and maintain knowledge in this field and its related disciplines;
- To act as a scientific actor for the resolution of complex problems;
- To design and implement scientific research projects;
- To communicate in a language adapted to the context and to the public nature;
- To develop in compliance with the ethical rules related to the field of expertise;
- To have legal training in the use of laboratory animals.

Please note that the learner will acquire their skills through:
- Lectures followed remotely. Either from the student’s home, or from a classroom in Charleroi;
- Practical courses and exercises at UMONS or at the Biopark (IBMM, CMMI), located in Gosselies, near Charleroi (https://biopark.be/en). The Biopark is a centre of excellence in molecular biology, hosting 700 researchers with expertise on a wide array of topics. The Biopark includes academic departments, spin offs, and pharmaceutical companies, on a campus that offers attractive possibilities for research-intensive programmes. This campus therefore offers many possibilities in terms of training and employment
- A laboratory internship
- A Master thesis: students are required to conduct original research projects in faculty laboratories, and to attend and host research seminars.

Teaching methods
- Regular classes, lectures (28%)
- Practical training activities in research laboratories (8%)
- Face-to-face exercises (5%)
- Personal assignments (8%, including writing laboratory reports and journal club presentations)
Succeed in your studies

ULB offers a number of activities and resources that can help you develop a successful strategy before or during your studies. You can make the transition to higher education easier by attending preparatory courses, summer classes, and information and orientation sessions, even before you start your studies at ULB.

During your studies, many people at ULB are there specifically to help you succeed: support staff in each faculty, (inter-)faculty guidance counsellors, tutors, and experts in academic methodology.

International/Openness

1st year: Erasmus exchange programme (for 1 or 2 terms)
2nd year: opportunity to complete the work placement and/or dissertation in a foreign country.
Active participation of teachers from the Centre of Microscopy and Molecular Imaging (CMMI)

Job opportunities

Scientific research (in companies, universities, hospitals, etc.)
Training (teaching biology or chemistry in school) or continuing education
Management and/or communication in the fields of health, biotechnologies, food processing, clinical research, quality control, etc.

Graduates in BBMC can pursue the following careers:
- Research in private companies (pharmacology, biotechnologies, food processing, etc.)
- Academic research (universities, high schools)
- Teaching in secondary schools or higher education institutions
- Continuing education
- Communication and/or scientific publishing
- Forensic science analysis
- Organising science outreach or awareness activities
- Scientific counselling for products within a company
- Quality control (hospitals, private companies, public QC services, etc.)
- Monitoring analyses in the fields of biodiversity, bioremediation, biosafety, etc. (ic services of control of quality, ...)
- Person in charge of monitoring analyses in the fields of biodiversity, bioremediation, biosafety, ...

Contacts

✉ master.bbcm.charleroi@ulb.be
📞 +32 65 37 38 15

Jury President
Melanie BOECKSTAENS

Jury Secretary
Lionel TAFFOREAU
## Cours obligatoires

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Coordinator(s)</th>
<th>Credits</th>
<th>Lecture Time</th>
<th>Language</th>
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</thead>
<tbody>
<tr>
<td>BINF-Y401</td>
<td>Bioinformatique</td>
<td>Olivier Delgrange (Coordinator)</td>
<td>2 credits [lecture: 15h]</td>
<td>first term</td>
<td>French</td>
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<tr>
<td>BINF-Y402</td>
<td>Sciences des données – 3</td>
<td>Philippe GROSJEAN (Coordinator)</td>
<td>3 credits [lecture: 15h, tutorial classes: 15h]</td>
<td>first term</td>
<td>French</td>
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<tr>
<td>BIOL-Y240</td>
<td>Compléments de biologie cellulaire</td>
<td>Lionel TAFFOREAU (Coordinator)</td>
<td>3 credits [lecture: 20h]</td>
<td>first term</td>
<td>French</td>
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<tr>
<td>BMOL-F004</td>
<td>Génétique du Développement et Neurobiologie</td>
<td>Serge SCHIFFMANN (Coordinator), Eric BELLEFROID, Alban DE KERCHOVE D'EXAERDE and Benoît VANHOLLEBEKE</td>
<td>5 credits</td>
<td>second term</td>
<td>French</td>
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<tr>
<td>BMOL-F005</td>
<td>Immunologie - Parasitologie</td>
<td>Fabienne ANDRIS (Coordinator), Mélanie BOECKSTAENS, Stanislas GORIELY and Luc VANHAMME</td>
<td>5 credits [lecture: 48h]</td>
<td>second term</td>
<td>French</td>
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<tr>
<td>BMOL-F006</td>
<td>Microbiologie moléculaire</td>
<td>Carine VAN LINT (Coordinator) and Abel GARCIA-PINO</td>
<td>5 credits [lecture: 48h]</td>
<td>second term</td>
<td>French</td>
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<tr>
<td>BMOL-F007</td>
<td>Lectures d'articles en biologie moléculaire</td>
<td>Fabienne ANDRIS (Coordinator)</td>
<td>5 credits [personal assignments: 48h]</td>
<td>second term</td>
<td>French</td>
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<tr>
<td>BMOL-F009</td>
<td>Imagerie moléculaire préclinique sur le vivant</td>
<td>Gaëtan VAN SIMAEYS (Coordinator)</td>
<td>3 credits [lecture: 16h, practical work: 8h]</td>
<td>first term</td>
<td>French</td>
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<tr>
<td>BMOL-F4010</td>
<td>TP de biologie moléculaire ou imagerie</td>
<td>Fabienne ANDRIS (Coordinator), Eric BELLEFROID, Abel GARCIA-PINO, Jacob SOUOPGUI, Laurence VAN MELDEREN and Benoît VANHOLLEBEKE</td>
<td>5 credits [practical work: 48h]</td>
<td>second term</td>
<td>French</td>
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<td>BMOL-Y403</td>
<td>Formation exp. Animale</td>
<td>Alexandre LEGRAND (Coordinator)</td>
<td>5 credits [lecture: 68h, tutorial classes: 12h]</td>
<td>first term</td>
<td>French</td>
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<td>BMOL-Y404</td>
<td>Phylogénie moléculaire des organismes</td>
<td>Igor Eeckhaut (Coordinator) and Jérôme Delroisse</td>
<td>2 credits [lecture: 15h]</td>
<td>first term</td>
<td>French</td>
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<td>BMOL-Y405</td>
<td>Propriété intellectuelle et intelligence stratégique</td>
<td>Marlène Genlain (Coordinator)</td>
<td>2 credits [lecture: 13h, tutorial classes: 4h]</td>
<td>first term</td>
<td>French</td>
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<td>BMOL-Y406</td>
<td>Protéomie structurale et fonctionnelle</td>
<td>Ruddy WATTIEZ (Coordinator)</td>
<td>4 credits [lecture: 30h, practical work: 10h]</td>
<td>first term</td>
<td>French</td>
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<tr>
<td>BMOL-Y407</td>
<td>Techniques modernes en biochimie, biologie et imagerie moléculaire</td>
<td>Lionel TAFFOREAU (Coordinator)</td>
<td>3 credits [lecture: 20h]</td>
<td>first term</td>
<td>French</td>
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<tr>
<td>BMOL-Y409</td>
<td>Techniques d'imagerie médicale: principe et applications</td>
<td>Sophie LAURENT (Coordinator)</td>
<td>3 credits [lecture: 23h]</td>
<td>first term</td>
<td>French</td>
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<tr>
<td>BMOL-Y410</td>
<td>Traineeship in cell imaging</td>
<td>Sébastien BOUTRY (Coordinator)</td>
<td>5 credits [practical work: 48h]</td>
<td>second term</td>
<td>English</td>
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**Bloc 2 | M-BMOLC | MA-BMOL**

**Cours obligatoires**

MEMO-F510  
**Séminaires de recherche | Fabienne ANDRIS (Coordinator)**  
- 2 credits [mfe/tfe: 24h]  
- first and second terms  
- French

MEMO-F516  
**Mémoire | Fabienne ANDRIS (Coordinator)**  
- 30 credits [mfe/tfe: 360h]  
- first and second terms

MEMO-Y003  
**Travail bibliographique**  
- 10 credits [personal assignments: 120h]  
- academic year  
- French

STAG-Y001  
**Stage en entreprise ou labo**  
- 18 credits [work placement: 180h]  
- academic year  
- French