

Bachelor in Biology

Option Charleroi

During the BA, you will receive a double competence:

- > a **general education** in Mathematics, Physics, Chemistry and Earth sciences;
- > a **specific education** in Life sciences: Zoology, Botany, Ecology, Physiology, Genetics, Biochemistry, Cell biology, Molecular biology, Microbiology (viruses and bacteria).

The program covers two main topics:

- > **Biology of organisms.** It concerns with the knowledge and understanding of biological diversity, its evolution and its role in ecosystem functioning; therefore it studies the organization, physiology, and ecology of various types of organisms (animals, plants, fungi, micro-organisms);
- > **Molecular biology.** It deals with the understanding of biological phenomena through the study of molecules and cells constituting organisms. It also contributes to the study of pathologies (molecular causes and development of therapies).

The importance of these two topics is substantially equivalent (50/50%).

Bloc 1 | BA-BIOLC | BA-BIOL

Enseignements obligatoires

Ce programme est organisé en collaboration avec l'UMons (Université de Mons). Pour avoir accès au programme complet, veuillez consulter le site suivant : <https://web.umons.ac.be/fs/fr/formations/sciences-biologiques-3/>



BIOL-F1703	Biologie I Sophie BONNOT (Coordinator) ⌚ 6 credits [lecture: 40h, tutorial classes: 12h, practical work: 18h] 📅 first term 🗨️ French
BIOL-Y226	Projet interbloc en Biologie 1 Sophie BONNOT (Coordinator), Jean-Christophe DE BISEAU D'HAUTEVILLE and Pierrick UZUREAU ⌚ 2 credits [project: 24h] 📅 first and second terms 🗨️ French
CHIM-F1704	Chimie organique Jérémy ODENT ⌚ 6 credits [lecture: 32h, tutorial classes: 20h, practical work: 20h] 📅 second term 🗨️ French
CHIM-Y1708	Chimie générale I Damien Thiry ⌚ 10 credits [lecture: 60h, tutorial classes: 25h, practical work: 35h] 📅 first term 🗨️ French
MATH-Y1706	Bases mathématiques pour disciplines scientifiques (avec remise à niveau) Colin Van Dyck (Coordinator) ⌚ 5 credits [lecture: 30h, tutorial classes: 30h] 📅 first term 🗨️ French
PHYS-Y1707	Physique I Colin Van Dyck (Coordinator) ⌚ 8 credits [lecture: 60h, tutorial classes: 10h, practical work: 20h] 📅 first term 🗨️ French


Enseignements optionnels

Les étudiants sont priés de choisir un module de 23 crédits parmi les 4 modules repris ci-dessous



Module chimie



BIOL-F1716	Biologie II Denis LAFONTAINE (Coordinator) and Sophie BONNOT ⌚ 4 credits [lecture: 30h, tutorial classes: 10h, field trips: 10h] 📅 second term 🗨️ French
BMOL-Y110	Biochimie Sabrina BOUSBATA (Coordinator) ⌚ 1 credit [lecture: 15h] 📅 second term 🗨️ French
CHIM-Y200	Chimie générale II Jérémy ODENT ⌚ 6 credits [lecture: 35h, tutorial classes: 12h, practical work: 25h] 📅 second term 🗨️ French

MATH-Y200 **Outils mathématiques des sciences de la vie (Partie A)** | Colin Van Dyck (Coordinator)
 7 credits [lecture: 42h, tutorial classes: 42h]  second term  French



PHYS-Y200 **Physique II** | Colin Van Dyck (Coordinator)
 5 credits [lecture: 30h, tutorial classes: 10h, practical work: 20h]  second term  French



Module Pharma

BIOL-F1709 **Biochimie** | Sabrina BOUSBATA (Coordinator)
 3 credits [lecture: 29h, practical work: 10h]  second term  French



BIOL-F1710 **Botanique** | Pierre Jacques MEERTS (Coordinator), Sophie BONNOT and Jason VLEMINCKX
 5 credits [lecture: 30h, practical work: 32h]  second term  French



BIOL-F1712 **Anatomie / Embryologie** | Eric BELLEFROID (Coordinator), Xavier CATTEAU, Maud MARTIN and Daniel RADBATA
 4 credits [lecture: 42h, practical work: 14h]  second term  French



BIOL-F1717 **Biologie II** | Sophie BONNOT (Coordinator) and Denis LAFONTAINE
 5 credits [lecture: 30h, tutorial classes: 10h, field trips: 8h, personal assignments: 12h]  second term  French



CHIM-Y201 **Chimie générale II**
 6 credits [lecture: 35h, tutorial classes: 12h, practical work: 25h]  second term  French

Module Biomed

BIOL-F1709 **Biochimie** | Sabrina BOUSBATA (Coordinator)
 3 credits [lecture: 29h, practical work: 10h]  second term  French



BIOL-F1712 **Anatomie / Embryologie** | Eric BELLEFROID (Coordinator), Xavier CATTEAU, Maud MARTIN and Daniel RADBATA
 4 credits [lecture: 42h, practical work: 14h]  second term  French



BIOL-F1718 **Biologie II** | Sophie BONNOT (Coordinator) and Denis LAFONTAINE
 5 credits [lecture: 30h, tutorial classes: 10h, field trips: 8h, personal assignments: 12h]  second term  French

CHIM-Y201 **Chimie générale II**
 6 credits [lecture: 35h, tutorial classes: 12h, practical work: 25h]  second term  French



PHYS-Y200 **Physique II** | Colin Van Dyck (Coordinator)
 5 credits [lecture: 30h, tutorial classes: 10h, practical work: 20h]  second term  French



Module Biologie

BIOL-F1710 **Botanique** | Pierre Jacques MEERTS (Coordinator), Sophie BONNOT and Jason VLEMINCKX
 4 credits [lecture: 30h, practical work: 20h]  second term  French

BIOL-F1717 **Biologie II** | Sophie BONNOT (Coordinator) and Denis LAFONTAINE
 5 credits [lecture: 30h, tutorial classes: 10h, field trips: 8h, personal assignments: 12h]  second term  French

BMOL-Y110 **Biochimie** | Sabrina BOUSBATA (Coordinator)
 1 credit [lecture: 15h]  second term  French

CHIM-Y201 **Chimie générale II**
 6 credits [lecture: 35h, tutorial classes: 12h, practical work: 25h]  second term  French

MATH-Y200 **Outils mathématiques des sciences de la vie (Partie A)** | Colin Van Dyck (Coordinator)
 7 credits [lecture: 42h, tutorial classes: 42h]  second term  French



Bachelor in Biology

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Bloc 2 | BA-BIOLC | BA-BIOL

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- BIOL-F2702 **Métabolisme du carbone et de l'azote** | Baptiste LEROY
 5 credits [lecture: 30h, practical work: 20h] first term French
- BIOL-F2703 **Physiologie et histologie animale** | Jacob SOUOPGUI (Coordinator), Sophie BONNOT and Anna Maria MARINI
 5 credits [lecture: 48h, practical work: 12h] first term French
- BIOL-F2704 **Biologie cellulaire et moléculaire** | David PEREZ-MORGA (Coordinator), Sophie BONNOT, Sophie Bouchat and Dukas Jurénas
 8 credits [lecture: 40h, tutorial classes: 10h, practical work: 40h] first and second terms French
- BIOL-F2705 **Microbiologie** | Laurence VAN MELDEREN (Coordinator) and Sophie Bouchat
 5 credits [lecture: 24h, tutorial classes: 8h, practical work: 24h] second term French
- BIOL-Y204 **Anglais**
 5 credits [lecture: 24h, tutorial classes: 24h] academic year French
- BIOL-Y205 **Bio-informatique et sciences des données I** | Raphaël CONOTTE
 5 credits [practical work: 70h] academic year French
- BIOL-Y209 **Zoologie** | Guillaume CAULIER
 4 credits [lecture: 24h, practical work: 24h] first term French
- BIOL-Y210 **Compléments de biochimie** | Sabrina BOUSBATA (Coordinator) and Abel GARCIA-PINO
 5 credits [lecture: 10h, tutorial classes: 40h] first term French
- BIOL-Y230 **Projet interbloc en Biologie 2** | Sophie BONNOT (Coordinator), Jean-Christophe DE BISEAU D'HAUTEVILLE and Pierrick UZUREAU
 2 credits [project: 24h] first and second terms French
- GEOL-F2700 **Sciences de la Terre et géobiologie** | Steeve BONNEVILLE (Coordinator), Sandra ARNDT, Karen FONTIJN, Nadine MATTIELLI and Pierre REGNIER
 5 credits [lecture: 15h, field trips: 36h] second term French

An alternative chosen from the two following

Module de rattrapage pour les étudiants ayant suivi l'option BioMED en BAB1

- BIOL-F1710 **Botanique** | Pierre Jacques MEERTS (Coordinator), Sophie BONNOT and Jason VLEMINCKX
 (optional) 4 credits [lecture: 30h, practical work: 20h] second term French
- MATH-Y200 **Outils mathématiques des sciences de la vie (Partie A)** | Colin Van Dyck (Coordinator)
 (optional) 7 credits [lecture: 42h, tutorial classes: 42h] second term French


or

Module de rattrapage pour les étudiants ayant suivi l'option Biologie en BAB1

- BIOL-F1712 **Anatomie / Embryologie** | Eric BELLEFROID (Coordinator), Xavier CATTEAU, Maud MARTIN and Daniel RADBATA
 (optional) 5 credits [lecture: 42h, practical work: 14h] second term French

PHYS-Y200
(optional)

Physique II | Colin Van Dyck (Coordinator)

6 credits [lecture: 30h, tutorial classes: 10h, practical work: 20h]  second term  French



Bachelor in Biology

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Bloc 3 | BA-BIOLC | BA-BIOL

Programme

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- BIOL-F3701 **Génétique I** | Bruno ANDRE (Coordinator)
 5 credits [lecture: 24h, practical work: 24h] first and second terms French
- BIOL-F3702 **Neurosciences** | Maud MARTIN (Coordinator)
 5 credits [lecture: 24h, practical work: 10h] second term French
- BIOL-F3703 **Mécanismes et épistémologie de l'évolution** | Jean-Christophe DE BISEAU D'HAUTEVILLE (Coordinator)
 5 credits [lecture: 24h, practical work: 24h] first term French
- BIOL-F3704 **Immunologie et microbiologie** | Fabienne ANDRIS (Coordinator) and Laurence VAN MELDEREN
 5 credits [lecture: 24h, practical work: 24h] first and second terms French
- BIOL-F3705 **Biologie du développement** | Eric BELLEFROID (Coordinator)
 5 credits [lecture: 24h, practical work: 24h] first and second terms French
- BIOL-Y206 **Bio-informatique et sciences des données II** | Raphaël CONOTTE
 5 credits [practical work: 60h] academic year French
- BIOL-Y207 **Biodiversité, évolution et écologie** | Guillaume CAULIER
 5 credits [lecture: 36h, practical work: 24h] second term French
- BIOL-Y301 **Pharmaco-toxicologie** | Sébastien BOUTRY (Coordinator)
 5 credits [lecture: 24h, practical work: 24h] first term French
- BIOL-Y302 **Physiopathologie** | Laurence Ris
 5 credits [lecture: 50h, practical work: 10h] second term French
- BIOL-Y330 **Projet interbloc en Biologie 3** | Jean-Christophe DE BISEAU D'HAUTEVILLE (Coordinator), Sophie BONNOT and Pierrick UZUREAU
 4 credits [lecture: 48h] first and second terms French
- BIOL-Y331 **Interactions hôtes pathogènes** | Fabienne WILLEMS (Coordinator) and Eric MURAILLE
 5 credits [lecture: 12h, tutorial classes: 36h, practical work: 24h] second term French
- BMOL-F3700 **Méthodologie de biochimie, biologie cellulaire et moléculaire** | Guillaume OLDENHOVE (Coordinator) and Ruddy WATTIEZ
 6 credits [lecture: 12h, practical work: 48h] first and second terms French