

Bachelor in Biology

Option Bruxelles

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 (including dissections), 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-BIOLB | BA-BIOL

Cours obligatoires

BIOL-F103	Bases de la biologie des organismes Martine VERCAUTEREN (Coordinator) and Karine VAN DONINCK ⌚ 10 credits [lecture: 60h, tutorial classes: 24h, practical work: 24h, field trips: 12h] 📅 first and second terms 🗨 French
BIOL-F104	Bases moléculaires du vivant Cyril GUEYDAN (Coordinator), Mélanie BOECKSTAENS and Véronique KRUYSS ⌚ 10 credits [lecture: 64h, tutorial classes: 20h, practical work: 12h] 📅 first and second terms 🗨 French
CHIM-F101	Chimie générale François RENIERS (Coordinator), Laurence RONGY and Thierry VISART DE BOCARME ⌚ 15 credits [lecture: 84h, tutorial classes: 48h, practical work: 48h, project: 40h] 📅 first and second terms 🗨 French
CHIM-F102	Chimie organique 1 Cécile MOUCHERON (Coordinator) ⌚ 5 credits [lecture: 30h, tutorial classes: 18h] 📅 second term 🗨 French
ENVI-F1001	Sciences de la Terre, Environnement et Société Pierre REGNIER (Coordinator), Jean-Michel DECROLY and Frank PATTYN ⌚ 5 credits [lecture: 48h, field trips: 12h] 📅 first and second terms 🗨 French
MATH-F119	Mathématiques Dimitri LEEMANS (Coordinator) and Antoine GLORIA ⌚ 10 credits [lecture: 60h, tutorial classes: 60h] 📅 first and second terms 🗨 French
PHYS-F104	Physique 1 Barbara CLERBAUX (Coordinator), Sébastien CLESSE and Michele SFERRAZZA ⌚ 5 credits [lecture: 40h, tutorial classes: 20h] 📅 first term 🗨 French

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Bloc 2 | BA-BIOLB | BA-BIOL

Cours obligatoires

- BIOL-F201 **Evolution et diversité des eucaryotes : botanique** | Pierre Jacques MEERTS (Coordinator)
 5 credits [lecture: 48h, practical work: 12h] first and second terms French
- BIOL-F202 **Evolution et diversité des eucaryotes : métazoaires** | Jean-Christophe DE BISEAU D'HAUTEVILLE (Coordinator) and Jean-François FLOT
 5 credits [lecture: 60h] second term French
- BIOL-F204 **Microbiologie moléculaire et cellulaire** | Laurence VAN MELDEREN (Coordinator) and Anne OP DE BEECK
 5 credits [lecture: 32h, practical work: 16h] second term French
- BIOL-F208 **Biochimie et physiologie de la cellule** | Vincent RAUSSENS (Coordinator), Véronique KRUYSS and Maud MARTIN
 5 credits [lecture: 60h] first term French
- BIOL-F209 **Travaux pratiques de botanique et zoologie** | Jean-Christophe DE BISEAU D'HAUTEVILLE (Coordinator), Jean-François FLOT and Pierre Jacques MEERTS
 5 credits [practical work: 60h] second term French
- BIOL-F210 **Evolution et diversité des bactéries et archées** | Jean-François FLOT (Coordinator) and Isabelle GEORGE
 5 credits [lecture: 32h, practical work: 16h] first term French
- BIOL-F211 **Travaux pratiques de biochimie** | Guillaume OLDENHOVE (Coordinator) and David PEREZ-MORGA
 5 credits [practical work: 48h] first term French
- CHIM-F201 **Chimie analytique 1** | Thomas DONEUX (Coordinator)
 5 credits [lecture: 24h, practical work: 36h, project: 12h] first term French
- LANG-F201 **Anglais scientifique I** | Alexander CORNFORD (Coordinator)
 5 credits [tutorial classes: 48h] second term English
- MATH-F116 **Mathématiques 2** | Antoine GLORIA (Coordinator) and Jennifer ALONSO GARCIA
 5 credits [lecture: 30h, tutorial classes: 30h] first and second terms French
- PHYS-F205 **Physique 2** | Michel TYTGAT (Coordinator) and Michele SFERRAZZA
 5 credits [lecture: 24h, tutorial classes: 16h, practical work: 20h] first term French

Cours optionnels

Choisir exactement 3 cours (un au bloc 2 et deux au bloc 3, dont au moins un des deux cours ETHI-F201 et/ou ETHI-F301)

One course chosen from the following

- BIOL-F303 (optional) **Laboratoires de biologie moléculaire** | Guillaume OLDENHOVE (Coordinator) and David PEREZ-MORGA
 5 credits [practical work: 48h] second term French
- BIOL-F304 (optional) **Evolution et diversité des arthropodes et des vertébrés** | Yves ROISIN (Coordinator)
 5 credits [lecture: 28h, practical work: 28h, seminars: 4h] second term French
- BIOL-F305 (optional) **Botanique, phytogéographie et ethnoécologie** | Farid DAHDOUH-GUEBAS (Coordinator)
 5 credits [lecture: 24h, practical work: 15h, field trips: 12h] second term English/French

BIOL-F314 (optional)	Projet de recherche et communication scientifique Denis FOURNIER (Coordinator) and Eric BELLEFROID ⌚ 5 credits [project: 60h] 📅 first and second terms 🗨 French
ETHI-F201 (optional)	Sciences, éthique, histoire et société Grégoire Wallenborn (Coordinator) and Eric MURAILLE ⌚ 5 credits [lecture: 48h] 📅 second term 🗨 French
ETHI-F301 (optional)	Science et Société : analyse de controverses scientifiques Patrick MARDULYN (Coordinator) and Grégoire Wallenborn ⌚ 5 credits [lecture: 24h, project: 70h] 📅 first term 🗨 French
INFO-F206 (optional)	Informatique Olivier MARKOWITCH (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h, project: 12h] 📅 first term 🗨 French
PHYS-F105 (optional)	La structure de l'univers Alain JORISSEN (Coordinator) and Rodrigo ALVAREZ ⌚ 5 credits [lecture: 48h] 📅 first term 🗨 French
PHYS-F317 (optional)	How To Make (almost) Any Experiment Using Digital Fabrication Denis TERWAGNE (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 first term 🗨 French
TRAN-F201 (optional)	Introduction aux enjeux de la durabilité Wouter ACHTEN (Coordinator), Chiara ARMENI and Emilie JEMPA KANKO MUTOMBO ⌚ 5 credits [lecture: 24h, project: 24h] 📅 second term 🗨 French



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Bloc 3 | BA-BIOLB | BA-BIOL

Cours obligatoires

- BIOL-F301 **Physiologie et développement des plantes** | Nathalie VERBRUGGEN (Coordinator)
 5 credits [lecture: 36h, practical work: 24h] first and second terms French
- BIOL-F302 **Génétique** | Bruno ANDRE (Coordinator)
 5 credits [lecture: 24h, practical work: 24h] first term French
- BIOL-F308 **Mécanismes de l'évolution biologique** | Patrick MARDULYN (Coordinator) and Karine VAN DONINCK
 5 credits [lecture: 48h, tutorial classes: 12h] first term French
- BIOL-F309 **Ecologie** | Isabelle GEORGE (Coordinator)
 5 credits [lecture: 30h, practical work: 30h] first term French
- BIOL-F310 **Biodiversité et conservation** | Bruno DANIS (Coordinator) and Pierre Jacques MEERTS
 5 credits [lecture: 18h, tutorial classes: 14h, practical work: 4h, field trips: 24h] first and second terms French
- BIOL-F318 **Histophysiologie et développement animal** | Jacob SOUOPGUI (Coordinator), Eric BELLEFROID and Anna Maria MARINI
 5 credits [lecture: 60h] first term French
- BIOL-F322 **Biotechnologies** | Benoît VANHOLLEBEKE (Coordinator) and Nathalie VERBRUGGEN
 5 credits [lecture: 48h] second term French
- BIOL-F324 **Physique bioinspirée** | Denis TERWAGNE (Coordinator)
 5 credits [lecture: 30h, practical work: 30h] second term French
- LANG-F301 **Anglais scientifique II** | Hugh MURPHY (Coordinator) and Alexander CORNFORD
 5 credits [tutorial classes: 48h] first term English
- MATH-F316 **Biogéostatistiques** | Thomas VERDEBOUT (Coordinator)
 5 credits [lecture: 30h, tutorial classes: 24h] second term French

Cours optionnels

Choisir exactement 3 cours (un au bloc 2 et deux au bloc 3, dont au moins un des deux cours ETHI-F-201 et/ou ETHI-F-301)

Two courses chosen from the following

- BIOL-F303 (optional) **Laboratoires de biologie moléculaire** | Guillaume OLDENHOVE (Coordinator) and David PEREZ-MORGA
 5 credits [practical work: 48h] second term French
- BIOL-F304 (optional) **Evolution et diversité des arthropodes et des vertébrés** | Yves ROISIN (Coordinator)
 5 credits [lecture: 28h, practical work: 28h, seminars: 4h] second term French
- BIOL-F305 (optional) **Botanique, phytogéographie et ethnoécologie** | Farid DAHDOUH-GUEBAS (Coordinator)
 5 credits [lecture: 24h, practical work: 15h, field trips: 12h] second term English/French
- BIOL-F314 (optional) **Projet de recherche et communication scientifique** | Denis FOURNIER (Coordinator) and Eric BELLEFROID
 5 credits [project: 60h] first and second terms French
- BIOL-F320 (optional) **Travaux pratiques d'histophysiologie et développement animal** | Eric BELLEFROID (Coordinator), Anna Maria MARINI and Jacob SOUOPGUI
 5 credits [practical work: 48h] second term French

ETHI-F201 (optional)	Sciences, éthique, histoire et société Grégoire Wallenborn (Coordinator) and Eric MURAILLE ⌚ 5 credits [lecture: 48h] 📅 second term 🗨 French
ETHI-F301 (optional)	Science et Société : analyse de controverses scientifiques Patrick MARDULYN (Coordinator) and Grégoire Wallenborn ⌚ 5 credits [lecture: 24h, project: 70h] 📅 first term 🗨 French
INFO-F206 (optional)	Informatique Olivier MARKOWITCH (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h, project: 12h] 📅 first term 🗨 French
PHYS-F105 (optional)	La structure de l'univers Alain JORISSEN (Coordinator) and Rodrigo ALVAREZ ⌚ 5 credits [lecture: 48h] 📅 first term 🗨 French
PHYS-F317 (optional)	How To Make (almost) Any Experiment Using Digital Fabrication Denis TERWAGNE (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 first term 🗨 French
TRAN-F201 (optional)	Introduction aux enjeux de la durabilité Wouter ACHTEN (Coordinator), Chiara ARMENI and Emilie JEMPA KANKO MUTOMBO ⌚ 5 credits [lecture: 24h, project: 24h] 📅 second term 🗨 French

