

Bachelor in Bioengineering















The teaching covers four areas

- > A general background in sciences: mathematics, chemistry, physics, biology (general, zoology and botany), informatics;
- > Engineering sciences: transport phenomena, applied thermodynamics, electricity and electronics, chemical engineering, modeling;
- > Bioengineering sciences: agronomy, biochemistry and molecular biology, earth and soil science, environmental technologies
- > Humanities, in particular languages and an optional course in epistemology and business economics

The courses are taught ex cathedra and through the implementation of concrete projects. About half of the teaching volume consists of projects, exercises and laboratory work. The other half consists of theoretical teaching. Excursions are organized as well.

Bloc 1 | BA-IRBI

























Cours obligatoires

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| BING-F1001 | Sciences de la terre et du bioingénieur, environnement et société Pierre REGNIER (Coordinator), Jean-Michel DECROLY, Christian HERMANS and Frank PATTYN 5 credits [lecture: 48h, seminars: 12h]  first term  French |
| BIOL-F105 | Biologie générale Cyril GUEYDAN (Coordinator), Mélanie BOECKSTAENS, Véronique KRUYSS and Karine VAN DONINCK 10 credits [lecture: 94h, tutorial classes: 6h, practical work: 20h]  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: 52h, 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 |
| MATH-F115 | Mathématiques 2 Ignace LORIS (Coordinator) 5 credits [lecture: 30h, tutorial classes: 24h]  second term  French |
| MATH-F118 | Mathématiques Samuel FIORINI (Coordinator) and Andriy Haydys 10 credits [lecture: 60h, tutorial classes: 60h]  first and second terms  French |
| PHYS-H101 | Connaissances fondamentales et éléments de physique Fabrizio PUCCI (Coordinator) 10 credits [lecture: 68h, tutorial classes: 40h, practical work: 12h]  first and second terms  French |

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Bloc 2 | BA-IRBI

Cours obligatoires

- BING-F202** [Agriculture et agroécologie](#) | Marjolein VISSER (Coordinator)
 5 credits [lecture: 36h, tutorial classes: 12h]  second term  French
- 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-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
- CHIM-F201** [Chimie analytique 1](#) | Thomas DONEUX (Coordinator)
 5 credits [lecture: 24h, practical work: 36h, project: 12h]  first term  French
- ELEC-H201** [Electricité et électronique](#) | Frédéric ROBERT (Coordinator) and Johan GYSELINCK
 5 credits [lecture: 24h, tutorial classes: 20h, practical work: 16h]  second term  French
- GEOLOG-F2001** [Introduction à la minéralogie et à la pédologie](#) | Steeve BONNEVILLE (Coordinator) and Thomas DROUET DE LA THIBAUDERIE
 5 credits [lecture: 28h, field trips: 8h]  first term  French
- INFO-F206** [Informatique](#) | Olivier MARKOWITCH (Coordinator)
 5 credits [lecture: 24h, tutorial classes: 24h, project: 12h]  first term  French
- LANG-F201** [Anglais scientifique I](#) | Alexander CORNFORD (Coordinator)
 5 credits [tutorial classes: 48h]  second term  English
- MECA-H301** [Systèmes énergétiques : principes de bases et technologies durables](#) | Axel Coussement (Coordinator) and Alessandro PARENTE
 5 credits [lecture: 30h, tutorial classes: 14h, practical work: 16h]  first term  French
- TRAN-F201** [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

Bachelor in Bioengineering

Bloc 3 | BA-IRBI

Cours obligatoires

- BING-F3004 **Anglais scientifique et épistémologie des sciences** | Céline KERMISCH (Coordinator), Alexander CORNFORD and Hugh MURPHY
 5 credits [lecture: 48h] 📅 first and second terms 🗨️ French
- BING-F301 **Microbiologie générale et environnementale** | Isabelle GEORGE (Coordinator), Sigrid FLAHAUT and Cécile Thonar
 5 credits [lecture: 36h, practical work: 24h] 📅 second term 🗨️ French
- BING-F406 **Gestion de projet et projet de recherche** | Dimitri GILIS (Coordinator), Nathalie GYPENS, Christian HERMANS and Patrick SIMON
 5 credits [lecture: 24h, project: 36h] 📅 first and second terms 🗨️ French
- BIOL-F301 **Physiologie et développement des plantes** | Nathalie VERBRUGGEN (Coordinator)
 5 credits [lecture: 36h, practical work: 24h] 📅 first and second terms 🗨️ French
- BIOL-F309 **Ecologie** | Isabelle GEORGE (Coordinator)
 5 credits [lecture: 30h, practical work: 30h] 📅 first term 🗨️ French
- BIOL-F323 **Génétique: aspects fondamentaux et appliqués** | Bruno ANDRE (Coordinator) and Benoît VANHOLLEBEKE
 5 credits [lecture: 42h] 📅 first and second terms 🗨️ French
- CHIM-H302 **Pollution du milieu physique** | Michel VERBANCK (Coordinator) and Gilles BRUYLANTS
 5 credits [lecture: 40h, tutorial classes: 8h, practical work: 12h] 📅 second term 🗨️ French
- CHIM-H314 **Introduction au génie des procédés** | Benoît HAUT (Coordinator)
 5 credits [lecture: 24h, tutorial classes: 24h, practical work: 12h] 📅 second term 🗨️ French
- MATH-F316 **Biogéostatistiques** | Thomas VERDEBOUT (Coordinator)
 5 credits [lecture: 30h, tutorial classes: 24h] 📅 second term 🗨️ French
- MATH-H302 **Introduction à l'analyse complexe et au calcul numérique** | Artem NAPOV (Coordinator) and Michel KINNAERT
 5 credits [lecture: 24h, tutorial classes: 30h] 📅 first term 🗨️ French
- MECA-H3001 **Fluid mechanics and transfer processes** | Alessandro PARENTE (Coordinator), Frédéric DEBASTE and Richard ESSEX
 5 credits [lecture: 30h, tutorial classes: 24h] 📅 first term 🗨️ English

A total of five credits chosen from the following

- BING-F306 (optional) **Travaux pratiques en Biochimie et Biologie Moléculaire** | Guillaume OLDENHOVE (Coordinator)
 5 credits [practical work: 48h] 📅 second term 🗨️ French
- ENVI-F454 (optional) **Energie: Société et environnement** | Michel HUART (Coordinator) and Nadine MATTIELLI
 5 credits [lecture: 24h, tutorial classes: 24h, practical work: 12h] 📅 first 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
- 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

