

Bachelor in Computer science

The programme helps students acquire the **technical know-how** and **fundamental scientific knowledge** in computer science, as well as **general skills**, in particular technical English language and an introduction to **other scientific disciplines**.

The studies are organized around two main focuses:

- > A basic training in **fundamental and theoretical computer science**, as well as in the **related scientific and mathematical matters**
- > A **project-based learning** leading to the acquisition of the practical and technical skills in computing

Bloc 1 | BA-INFO

Cours obligatoires

Méthodes, systèmes et projets 1

INFO-F102 **Fonctionnement des ordinateurs** | Gilles GEERAERTS (Coordinator)
⌚ 5 credits [lecture: 36h, practical work: 12h] 📅 first term 🗨️ French

INFO-F106 **Projets d'informatique 1** | Gwenaël JORET (Coordinator) and Tom LENAERTS
⌚ 5 credits [practical work: 12h, project: 120h] 📅 academic year 🗨️ French

Programmation et structure de données 1

INFO-F101 **Programmation** | Thierry MASSART (Coordinator)
⌚ 10 credits [lecture: 36h, tutorial classes: 36h, practical work: 24h, project: 60h] 📅 first term 🗨️ French

INFO-F103 **Algorithmique 1** | Olivier MARKOWITCH (Coordinator) and Bernard FORTZ
⌚ 10 credits [lecture: 36h, tutorial classes: 36h, practical work: 24h, project: 60h] 📅 second term 🗨️ French

INFO-F105 **Langages de programmation 1** | Christophe PETIT (Coordinator)
⌚ 5 credits [lecture: 24h, practical work: 24h, project: 30h] 📅 second term 🗨️ French

Autres disciplines et compétences générales 1

MATH-F114 **Algèbre linéaire et arithmétique** | Michele D'ADDERIO
⌚ 5 credits [lecture: 30h, tutorial classes: 24h] 📅 second term 🗨️ French

MATH-F117 **Mathématiques**
⌚ 10 credits [lecture: 60h, tutorial classes: 60h] 📅 academic year 🗨️ French

PHYS-F103 **Physique** | Alain JORISSEN (Coordinator)
⌚ 5 credits [lecture: 36h, tutorial classes: 24h] 📅 second term 🗨️ French

Cours optionnels

A total of five credits chosen from the following

BIOL-F102 (optional) **Biologie générale** | Patrick MARDULYN (Coordinator) and Etienne MEYLAN
⌚ 5 credits [lecture: 48h] 📅 second term 🗨️ French

ENVI-F1001 (optional) **Sciences de la Terre, Environnement et Société** | Pierre REGNIER (Coordinator), Jean-Michel DECROLY and Frank PATTYN
⌚ 5 credits [lecture: 48h] 📅 first and second terms 🗨️ French







PHYS-F105 (optional) **La structure de l'univers** | Alain JORISSEN (Coordinator) and Rodrigo ALVAREZ
⌚ 5 credits [lecture: 48h] 📅 first term 🗨️ French

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Bloc 2 | BA-INFO

Cours obligatoires


Méthodes, systèmes et projets 2

- INFO-F201 **Systèmes d'exploitation** | Joël GOOSSENS (Coordinator) and Olivier MARKOWITCH
 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 12h, project: 30h]  first term  French
- INFO-F204 **Analyse et méthodes** | Christian HERNALSTEEN (Coordinator)
 5 credits [lecture: 36h, tutorial classes: 12h, practical work: 12h]  first term  French
- INFO-F209 **Projets d'informatique 2** | Joël GOOSSENS (Coordinator) and Christian HERNALSTEEN
 10 credits [practical work: 12h, project: 270h]  first and second terms  French





Programmation et structure de données 2

- INFO-F202 **Langages de programmation 2** | John IACONO (Coordinator)
 5 credits [lecture: 24h, practical work: 24h, project: 30h]  first term  French
- INFO-F203 **Algorithmique 2** | Jean CARDINAL (Coordinator)
 5 credits [lecture: 24h, tutorial classes: 24h, project: 30h]  second term  French
- INFO-H303 **Bases de données** | Esteban ZIMANYI (Coordinator)
 5 credits [lecture: 24h, tutorial classes: 24h, practical work: 12h]  second term  French

Outils formels et numériques 2

- INFO-F205 **Calcul formel et numérique** | Maarten JANSEN (Coordinator)
 5 credits [lecture: 24h, tutorial classes: 24h, project: 30h]  second term  French
- MATH-F307 **Mathématiques discrètes** | Samuel FIORINI (Coordinator)
 5 credits [lecture: 36h, tutorial classes: 24h]  first term  French
- MATH-F315 **Probabilités et statistiques** | Jennifer ALONSO GARCIA (Coordinator) and Thomas VERDEBOUT
 5 credits [lecture: 30h, tutorial classes: 30h]  first term  French

Autres disciplines et compétences générales 2

- ETHI-F201 **Sciences, éthique, histoire et société** | Grégoire Wallenborn (Coordinator) and Eric MURAILLE
 5 credits [lecture: 48h]  second term  French
- LANG-F201 **Anglais scientifique I** | Alexander CORNFORD (Coordinator)
 5 credits [tutorial classes: 48h]  second term  English

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Bloc 3 | BA-INFO


Cours obligatoires

Systèmes distribués



INFO-F303 **Réseaux, information et communications** | Guy LEDUC (Coordinator) and Christophe PETIT
 5 credits [lecture: 42h, tutorial classes: 16h]  first term  French



Gestion des données et des projets logiciels



INFO-F307 **Génie logiciel et gestion de projets** | Frédéric PLUQUET (Coordinator)
 10 credits [lecture: 24h, practical work: 7h, project: 89h]  second term  French

INFO-F311 **Intelligence artificielle** | Tom LENAERTS (Coordinator)
 5 credits [lecture: 24h, tutorial classes: 12h, project: 60h]  first term  French



Outils formels et numériques 2

INFO-F302 **Informatique fondamentale** | Emmanuel FILIOT (Coordinator)
 5 credits [lecture: 36h, tutorial classes: 12h, project: 30h]  first term  French

INFO-F305 **Modélisation et simulation** | Gianluca BONTEMPI (Coordinator)
 5 credits [lecture: 30h, tutorial classes: 24h, project: 6h]  first term  French

INFO-F310 **Algorithmique et recherche opérationnelle** | Bernard FORTZ (Coordinator)
 5 credits [lecture: 24h, tutorial classes: 24h, project: 30h]  second term  French

Autres disciplines et compétences générales 3



INFO-F308 **Projets d'informatique 3 transdisciplinaire** | Matthieu DEFRANCE (Coordinator)
 10 credits [practical work: 24h, project: 240h]  first and second terms  French

LANG-F301 **Anglais scientifique II** | Hugh MURPHY (Coordinator) and Alexander CORNFORD
 5 credits [tutorial classes: 48h]  first term  English

Cours optionnels

A total of ten credits chosen from the following

CHIM-F208 **Biochimie 1** | Cyril GUEYDAN (Coordinator) and Véronique KRUYSS
 5 credits [lecture: 60h]  first term  French

ECON-S1001 **Introduction à la microéconomie et à la macroéconomie** | P.-Guillaume MEON (Coordinator), Renaud FOUCART and Julien RAVET
 15 credits [lecture: 72h, tutorial classes: 48h]  academic year  French

ELEC-H201 **Electricité et électronique** | Frédéric ROBERT (Coordinator) and Johan GYSELINCK
 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h]  second term  French

ELEC-H310 **Digital electronics** | Dragomir MILOJEVIC (Coordinator)
 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h]  second term  English

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

GEST-D447 (optional) **Principes généraux d'organisation et de gestion** | Philippe SCIEUR (Coordinator)
⌚ 5 credits [lecture: 24h] 📅 first term 🗨️ French

GEST-S101 (optional) **Comptabilité financière** | Laurent GHEERAERT (Coordinator) and Gilles GEVERS
⌚ 5 credits [lecture: 36h, tutorial classes: 8h] 📅 second term 🗨️ French

One course chosen from the following

HULB-0000 (optional) **Cours externe à l'Université**
⌚ 5 credits 📅 academic year

HULB-0000 (optional) **Cours externe à l'Université**
⌚ 10 credits 📅 academic year

INFO-F309 (optional) **Administration de systèmes** | Sébastien COLLETTE (Coordinator)
⌚ 5 credits [lecture: 24h, practical work: 24h, project: 30h] 📅 second 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

One course chosen from the following

TEMP-0000 (optional) **Cours extérieurs au programme**
⌚ 5 credits 📅 academic year 🗨️ French

TEMP-0000 (optional) **Cours extérieurs au programme**
⌚ 10 credits 📅 academic year 🗨️ French

TRAN-F201 (optional) **Introduction aux enjeux de la durabilité** | Wouter ACHTEN (Coordinator) and Chiara ARMENI
⌚ 5 credits [lecture: 24h, project: 24h] 📅 second term 🗨️ French

