

Bachelor in Engineering Sciences

Option Bruxelles

BA-IRCI | BA-IRCIB | 2023-2024

Bloc 1 | BA-IRCIB | BA-IRCI

Cours obligatoires

- CHIM-H1001 **Chimie générales et procédés durables** | Philippe BOGAERTS (Coordinator) and Benoît HAUT
⌚ 10 credits [lecture: 60h, tutorial classes: 36h, practical work: 24h] 📅 first and second terms 🗨️ French
- INFO-H100 **Informatique** | Thierry MASSART (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 24h, practical work: 12h] 📅 first term 🗨️ French
- LANG-H1001 **Anglais I** | Matthew LANGSLEY (Coordinator), David Albert BEST and Richard ESSEX
⌚ 2 credits [tutorial classes: 24h] 📅 second term 🗨️ English
- MATH-H1002 **Analyse I** | Yves DE SMET (Coordinator)
⌚ 5 credits [lecture: 30h, tutorial classes: 30h] 📅 second term 🗨️ French
- MATH-H1003 **Algèbre linéaire et géométrie** | JérémY DOHET-ERALY (Coordinator)
⌚ 8 credits [lecture: 42h, tutorial classes: 54h] 📅 first and second terms 🗨️ French
- MATH-H1004 **Éléments d'analyse** | Yves DE SMET (Coordinator)
⌚ 2 credits [lecture: 18h, tutorial classes: 6h] 📅 first term 🗨️ French
- MECA-H100 **Mécanique rationnelle I** | Alain DELCHAMBRE (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 36h] 📅 first and second terms 🗨️ French
- PHYS-H1001 **Physique générale I** | Marc HAELTERMAN (Coordinator)
⌚ 5 credits [lecture: 30h, tutorial classes: 12h, practical work: 12h] 📅 first term 🗨️ French
- PHYS-H1002 **Physique générale II** | Marc HAELTERMAN (Coordinator)
⌚ 5 credits [lecture: 30h, tutorial classes: 12h, practical work: 12h] 📅 second term 🗨️ French
- TRAN-H100 **Introduction aux sciences appliquées** | Dimitri GILIS (Coordinator)
⌚ 8 credits [lecture: 36h, tutorial classes: 60h] 📅 first term 🗨️ French
- TRAN-H101 **Projet multidisciplinaire I** | Marc HAELTERMAN (Coordinator)
⌚ 5 credits [practical work: 12h, project: 48h] 📅 academic year 🗨️ French

Bloc 2 | BA-IRCIB | BA-IRCI

Cours obligatoires

- CHIM-H2001** [Chimie physique, matériaux et fabrication, y compris les visites d'usine](#) | Stephane GODET (Coordinator), Frédéric DEBASTE and Patrick HENDRICK
 10 credits [lecture: 60h, tutorial classes: 12h, practical work: 48h] academic year French
- CNST-H2001** [Mécanique des solides et des structures](#) | Philippe BOUILLARD (Coordinator)
 5 credits [lecture: 30h, tutorial classes: 30h] second term French
- ELEC-H2001** [Electromagnétisme](#) | Frédéric ROBERT (Coordinator)
 5 credits [lecture: 18h, tutorial classes: 18h, practical work: 24h] first term French
- INFO-H2001** [Programmation orientée objet](#) | Hugues BERSINI (Coordinator)
 5 credits [lecture: 30h, tutorial classes: 30h] second term French
- LANG-H2002** [Anglais II](#) | Matthew LANGSLEY (Coordinator), David Albert BEST and Richard ESSEX
 3 credits [lecture: 24h, tutorial classes: 12h] first term English
- MATH-H2000** [Analyse II](#) | Jérémie ROLAND (Coordinator) and Thomas LESSINNES
 8 credits [lecture: 48h, tutorial classes: 48h] first and second terms French
- MATH-H2002** [Calcul des probabilités et statistiques](#) | Yves DE SMET (Coordinator)
 5 credits [lecture: 30h, tutorial classes: 30h] first term
- MATH-H202** [Analyse numérique](#) | Artem NAPOV (Coordinator)
 4 credits [lecture: 24h, tutorial classes: 24h] second term French
- MECA-H200** [Mécanique rationnelle II](#) | Pierre LAMBERT (Coordinator)
 5 credits [lecture: 24h, tutorial classes: 24h, practical work: 12h] first term French
- PHYS-H200** [Physique quantique et statistique](#) | Jean-Marc SPARENBERG (Coordinator)
 5 credits [lecture: 36h, tutorial classes: 24h] second term French
- TRAN-H201** [Projet multidisciplinaire II et gestion de projet](#) | Jérémie ROLAND (Coordinator) and Patrick SIMON
 5 credits [practical work: 12h, project: 120h] academic year French

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Bloc 3 | BA-IRCIB | BA-IRCI

Cours obligatoires

- ELEC-H3001** [Electricité appliquée](#) | Pierre HENNEAUX (Coordinator)
⌚ 5 credits [lecture: 30h, tutorial classes: 6h, practical work: 24h] 📅 first term 🗨️ French
- MATH-H3001** [Signaux et systèmes](#) | Michel KINNAERT (Coordinator)
⌚ 5 credits [lecture: 30h, 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
- 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-H3001** [Epistémologie des sciences et éthique de l'ingénieur](#) | Céline KERMISCH (Coordinator)
⌚ 5 credits [lecture: 36h, seminars: 12h, personal assignments: 12h] 📅 second term 🗨️ French

An alternative chosen from the seven following

Module Construction

- CNST-H302** (optional) [Soil mechanics](#) | Alessia Cuccurullo (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 24h, practical work: 12h] 📅 first term 🗨️ English
- CNST-H303** (optional) [Analyse de structures](#) | Didier Snoeck (Coordinator)
⌚ 6 credits [lecture: 36h, tutorial classes: 36h] 📅 first term 🗨️ French
- CNST-H311** (optional) [Technologie et comportement du béton et des matériaux cimentaires](#) | Stéphanie STAQUET (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] 📅 second term 🗨️ French
- CNST-H312** (optional) [Geology and engineering geology](#) | Pierre GERARD (Coordinator)
⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨️ English
- CNST-Y302** (optional) [Civil engineering hydraulics](#) | Gerlinde LEFEVER (Coordinator) and Didier Snoeck
⌚ 4 credits [lecture: 24h, tutorial classes: 24h] 📅 first term 🗨️ English
- ELEC-H310** (optional) [Digital electronics](#) | Dragomir MILOJEVIC (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] 📅 second term 🗨️ English
- PROJ-H305** (optional) [Projet de conception des structures](#) | Didier Snoeck (Coordinator) and Alessia Cuccurullo
⌚ 5 credits [project: 150h] 📅 second term 🗨️ French

or

Module Electromécanique

- ELEC-H301** (optional) [Electronique appliquée](#) | François QUITIN (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] 📅 first term 🗨️ French

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

ELEC-H312 (optional) **Power electronics** | Johan GYSELINCK (Coordinator)
⌚ 5 credits [lecture: 24h, practical work: 24h] 📅 second term 🗨 English

ELEC-H313 (optional) **Instrumentation** | Antoine NONCLERCQ (Coordinator)
⌚ 5 credits [lecture: 36h, practical work: 24h] 📅 second term 🗨 French

MATH-H304 (optional) **Automatique** | Michel KINNAERT (Coordinator)
⌚ 5 credits [lecture: 30h, practical work: 30h] 📅 second term 🗨 French

MECA-H303 (optional) **Cinématique et dynamique des machines** | Arnaud DERAEMAER (Coordinator), Alain DELCHAMBRE and Patrick HENDRICK
⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 first term 🗨 French

MECA-H305 (optional) **Fluid mechanics II** | Thierry MAGIN (Coordinator)
⌚ 5 credits [lecture: 36h, tutorial classes: 12h, practical work: 12h] 📅 second term 🗨 English

or

Module Informatique

ELEC-H301 (optional) **Electronique appliquée** | François QUITIN (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] 📅 first term 🗨 French

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

INFO-F201 (optional) **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-F307 (optional) **Génie logiciel et gestion de projets** | Frédéric PLUQUET (Coordinator)
⌚ 5 credits [lecture: 24h, practical work: 7h, project: 89h] 📅 second term 🗨 French

INFO-H3000 (optional) **Recherche opérationnelle** | Yves DE SMET (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 24h, personal assignments: 12h] 📅 second term 🗨 French

INFO-H303 (optional) **Bases de données** | Esteban ZIMANYI (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 24h, practical work: 12h] 📅 second term 🗨 French

INFO-H304 (optional) **Compléments de programmation et d'algorithmique** | Jérémie ROLAND (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 24h, personal assignments: 30h] 📅 first term 🗨 French

or

Module physique

ELEC-H301 (optional) **Electronique appliquée** | François QUITIN (Coordinator)
⌚ 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] 📅 first term 🗨 French

ELEC-H304 (optional) **Physique des télécommunications** | Philippe DE DONCKER (Coordinator)
⌚ 5 credits [lecture: 36h, tutorial classes: 12h, practical work: 12h] 📅 second term 🗨 French

MATH-H301 (optional) **Compléments de mathématiques et de calcul numérique** | Artem NAPOV (Coordinator), Thomas LESSINNES and Jérémie ROLAND
⌚ 5 credits [lecture: 30h, tutorial classes: 12h, practical work: 18h] 📅 first term 🗨 French

MATH-H304 (optional) **Automatique** | Michel KINNAERT (Coordinator)
⌚ 5 credits [lecture: 30h, practical work: 30h] 📅 second term 🗨 French

PHYS-H300 (optional) **Physique des semi-conducteurs et de l'état solide** | Yves LOUIS (Coordinator) and Nicolas PAULY
⌚ 5 credits [lecture: 36h, tutorial classes: 12h, practical work: 12h] 📅 second term 🗨 French



PHYS-H301 **Mécanique quantique I** | Nicolas CERF (Coordinator)
(optional) 5 credits [lecture: 24h, tutorial classes: 36h] 📅 second term 🗨 French

PHYS-H302 **Éléments d'optique physique** | Marc HAELTERMAN (Coordinator)
(optional) 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] 📅 second term 🗨 French

or

Module Sciences biomédicales

BIME-H302 **Biologie générale et anatomo-physiologie humaine** | Hassan JIJAKLI (Coordinator) and Serge VAN SINT JAN
(optional) 10 credits [lecture: 84h, practical work: 36h] 📅 second term 🗨 French

CHIM-H312 **Biological Chemistry** | Kristin BARTIK (Coordinator)
(optional) 5 credits [lecture: 36h, tutorial classes: 24h] 📅 first term 🗨 English

ELEC-H3002 **Instrumentation et Automatique** | Michel KINNAERT (Coordinator) and Antoine NONCLERCQ
(optional) 5 credits [lecture: 48h, practical work: 12h] 📅 second term 🗨 French

ELEC-H301 **Electronique appliquée** | François QUITIN (Coordinator)
(optional) 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] 📅 first term 🗨 French

INFO-H304 **Compléments de programmation et d'algorithmique** | Jérémie ROLAND (Coordinator)
(optional) 5 credits [lecture: 24h, tutorial classes: 24h, personal assignments: 30h] 📅 first term 🗨 French

PROJ-H3000 **Projet intégré biomédical** | Antoine NONCLERCQ (Coordinator) and Michel KINNAERT
(optional) 5 credits [project: 150h] 📅 second term 🗨 French

or

Module Electronique et télécommunication

ELEC-H301 **Electronique appliquée** | François QUITIN (Coordinator)
(optional) 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] 📅 first term 🗨 French

ELEC-H304 **Physique des télécommunications** | Philippe DE DONCKER (Coordinator)
(optional) 5 credits [lecture: 36h, tutorial classes: 12h, practical work: 12h] 📅 second term 🗨 French

ELEC-H305 **Circuits logiques et numériques** | Dragomir MILOJEVIC (Coordinator)
(optional) 5 credits [lecture: 30h, tutorial classes: 30h] 📅 first term 🗨 French

ELEC-H309 **Projet intégré** | Frédéric ROBERT (Coordinator), Dragomir MILOJEVIC, Antoine NONCLERCQ and François QUITIN
(optional) 5 credits [project: 150h] 📅 second term 🗨 French

ELEC-H311 **Signaux et systèmes de télécommunications** | Francois HORLIN (Coordinator)
(optional) 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] 📅 first term 🗨 French

ELEC-H314 **Instrumentation et électronique analogique** | Antoine NONCLERCQ (Coordinator) and François QUITIN
(optional) 5 credits [lecture: 36h, practical work: 24h] 📅 second term 🗨 French

MATH-H304 **Automatique** | Michel KINNAERT (Coordinator)
(optional) 5 credits [lecture: 30h, practical work: 30h] 📅 second term 🗨 French

or

Module Chimie et science des matériaux



CHIM-H302 **Pollution du milieu physique** | Michel VERBANCK (Coordinator) and Gilles BRUYLANTS
(optional) 5 credits [lecture: 40h, tutorial classes: 8h, practical work: 12h] 📅 second term 🗨 French

CHIM-H310 **Chimie physique moléculaire** | Kristin BARTIK (Coordinator) and Nathalie VAECK
(optional) 5 credits [lecture: 42h, tutorial classes: 18h] 📅 first term 🗨 French



CHIM-H314
(optional)

Introduction au génie des procédés | Benoît HAUT (Coordinator)

5 credits [lecture: 24h, tutorial classes: 24h, practical work: 12h]  second term  French



CHIM-H316
(optional)

Matériaux et chimie inorganique : mise en oeuvre et analyse | Marie-Paule DELPLANCHE (Coordinator) and Gilles BRUYLANTS

10 credits [lecture: 60h, tutorial classes: 12h, practical work: 48h]  academic year  French

ELEC-H301
(optional)

Electronique appliquée | François QUITIN (Coordinator)

5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h]  first term  French

MATH-H304
(optional)

Automatique | Michel KINNAERT (Coordinator)

5 credits [lecture: 30h, practical work: 30h]  second term  French

