Bachelor in Engineering Sciences
Option Bruxelles

In order to access the Bachelor in Engineering (Civil Engineering or Architecture), students must have a certificate showing they have passed the special admission exam for this programme.

For most courses you will have at your disposal:

- a specialist laboratory.
- the different faculty libraries as well as the university central libraries, especially the scientific and technical library.
- computer rooms.

Teaching methods

As from the first block, teaching methodologies range from classical courses to projects, including exercise and laboratory sessions.

Succeed in your studies

Choose

The information and guidance counsellors at the InfOR-études [https://www.ulb.be/en/studies-info-desk-1] service will help you choose your studies throughout the year.

Succeed


Get help

Apply for financial aid, look for accommodation or a student job, get support [https://www.ulb.be/fr/aides-services-et-accompagnement/aid-services-and-support-1] for your specific needs.

International/Openness

The Erasmus exchange programme usually takes place during the master’s course. However, there are bilateral agreements (double degree agreements) enabling you to study abroad from the 3rd block of the bachelor’s course to the end of the 1st block of the master’s course.

Programme objectives

Fulfill your ambitions by gaining a grounding in the different aspects of engineering: creating, designing, producing, optimising, securing. You will develop skills ranging from scientific rigour to practical work. You will learn both know-how and interpersonal skills.

Programme’s added value

A « multitechnical » approach that enables you to gain an insight into all the theoretical and applied aspects of this field.

A very comprehensive course with a particular focus on individual study and with lectures only making up one element of the course.

It is basically the most general BA course in the French-speaking Region of Belgium.
Some of the subsequent masters in engineering are organised jointly with VUB in English.

**Job opportunities**

If you go on to do a Master in Civil Engineering, you will be able to work in the following areas:

- Corporate engineer
- Consultant engineer
- Research engineer
- Production engineer
- Engineer in a technical consultancy department.

You could also do research in applied sciences: constructions, chemistry, science of materials, physics, electricity, mechanics, information technologies, biomedical sciences.

**Contacts**

- Philippe.Bogaerts@ulb.ac.be
- +32 2 650 40 93
- [https://polytech.ulb.be/fr/les-etudes/bacheliers](https://polytech.ulb.be/fr/les-etudes/bacheliers)

**Jury President**
Philippe BOGAERTS

**Jury Secretary**
Michel KINNAERT
## Cours obligatoires

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<td>Chimie générales et procédés durables</td>
<td>Philippe BOGAERTS (Coordinator) and Benoît HAUT</td>
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<td>Dimitri GILIS (Coordinator)</td>
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<td>Marc HAELTERMAN (Coordinator)</td>
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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]  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
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 Coussenent (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**  
*Soil mechanics*  
Alessia Cuccurullo (Coordinator)  
○ 5 credits [lecture: 24h, tutorial classes: 24h, practical work: 12h]  
first term  
English

**CNST-H303**  
*Analyse de structures*  
Didier Snoeck (Coordinator)  
○ 6 credits [lecture: 36h, tutorial classes: 36h]  
first term  
French

**CNST-H311**  
*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**  
*Geology and engineering geology*  
Pierre GERARD (Coordinator)  
○ 5 credits [lecture: 24h, practical work: 36h]  
second term  
French

**CNST-Y302**  
*Civil engineering hydraulics*  
Gerlinde LEFEVER (Coordinator) and Didier Snoeck  
○ 4 credits [lecture: 24h, tutorial classes: 24h]  
first term  
English

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

**PROJ-H305**  
*Projet de conception des structures*  
Didier Snoeck (Coordinator) and Alessia Cuccurullo  
○ 5 credits [project: 150h]  
second term  
French

or

**Module Electromécanique**

**ELEC-H301**  
*Electronique appliquée*  
François QUITIN (Coordinator)  
○ 5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h]  
first term  
French
Digital electronics | Dragomir MILOJEVIC (Coordinator)
5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] second term English

Power electronics | Johan GYSELINCK (Coordinator)
5 credits [lecture: 24h, practical work: 24h] second term English

Instrumentation | Antoine NONCLERCQ (Coordinator)
5 credits [lecture: 24h, practical work: 24h] second term French

Automatic | Michel KINNAERT (Coordinator)
5 credits [lecture: 30h, practical work: 30h] second term French

Cinématique et dynamique des machines | Arnaud DERAEMAEKER (Coordinator), Alain DELCHAMBRE and Patrick HENDRICK
5 credits [lecture: 24h, practical work: 36h] first term French

Fluid mechanics II | Thierry MAGIN (Coordinator)
5 credits [lecture: 36h, practical work: 12h] second term English

Module Informatique

Electronique appliquée | François QUITIN (Coordinator)
5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] first term French

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

Systèmes d'exploitation | Joël GOOSSENS (Coordinator) and Olivier MARKOWITCH
5 credits [lecture: 24h, tutorial classes: 12h, practical work: 36h, project: 30h] first term French

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

Recherche opérationnelle | Yves DE SMET (Coordinator)
5 credits [lecture: 24h, tutorial classes: 24h, personal assignments: 12h] second term French

Bases de données | Esteban ZIMANYI (Coordinator)
5 credits [lecture: 24h, tutorial classes: 24h, practical work: 12h] second term French

Compléments de programmation et d'algorithme | Jérémie ROLAND (Coordinator)
5 credits [lecture: 24h, tutorial classes: 24h, personal assignments: 30h] first term French

Module physique

Electronique appliquée | François QUITIN (Coordinator)
5 credits [lecture: 24h, tutorial classes: 12h, practical work: 24h] first term French

Physique des télécommunications | Philippe DE DONCKER (Coordinator)
5 credits [lecture: 36h, tutorial classes: 12h, practical work: 12h] second term French

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

Automatique | Michel KINNAERT (Coordinator)
5 credits [lecture: 30h, practical work: 30h] second term French

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
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<td>Nicolas CERF (Coordinator)</td>
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<td>Hassan JIJAKLI (Coordinator) and Serge VAN SINT JAN</td>
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<td>Dragomir MILOJEVIC (Coordinator)</td>
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<td>Benoît HAUT (Coordinator)</td>
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<td>Matériaux et chimie inorganique : mise en œuvre et analyse</td>
<td>Marie-Paule DELPLANKE (Coordinator) and Gilles BRUYLANTS</td>
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