

**At Louvain-la-Neuve - 180 credits - 3 years - Day schedule - In French**  
Dissertation/Graduation Project : **NO**



## CHIM1BA - Teaching profile

### Learning outcomes

The programme aims at :

- the acquisition of general knowledge and skills in the principal subjects of the Exact Sciences (Biology, Chemistry, Mathematics and Physics) and a deepening of the basic knowledge and skills in the various domains of Chemistry
- the acquisition of rigour in reasoning and in written and oral expression, a critical spirit and the capacity to solve scientific problems, particularly those relevant to the disciplines of Chemistry
- the acquisition of transversal skills ( Human Sciences, computing, management, English, written and oral communication), with a view to enhancing the generalist character of the training programme as well as the chances of getting a foot-hold on the job market upon successful completion of the studies.

On successful completion of this programme, each student is able to :

1. Maîtriser un ensemble de « savoirs scientifiques » permettant de résoudre des problématiques de chimie

1.1 Identifier et utiliser de manière critique les connaissances « essentielles » des sciences fondamentales : biologie, chimie, mathématique, physique pour résoudre une problématique donnée

1.2 Identifier et utiliser de manière critique les savoirs « spécialisés » de la chimie : organique, inorganique, analytique, physique pour résoudre un problème complexe de chimie.

2. Réaliser une démarche scientifique, théorique ou expérimentale, complète appliquée à l'appréhension, à l'analyse ou au développement d'une réaction chimique

2.1 Définir une problématique en des termes scientifiques rigoureux

2.2 Intégrer les connaissances acquises pour la formulation du problème en termes d'hypothèses permettant de proposer une solution pertinente au problème de chimie posé

2.3 Etablir les relations structures-propriétés pour une molécule donnée

2.4 Maîtriser les techniques expérimentales fondamentales de la chimie

2.5 Synthétiser, isoler et purifier au laboratoire une molécule donnée et quantifier sa concentration en répétant des modes opératoires décrits précédemment

2.6 Evaluer le risque lié à la réalisation au laboratoire d'une réaction chimique et veiller à la sécurité de l'environnement et des personnes dans le respect des règles de l'art de la chimie.

3. Communiquer oralement et par écrit en français et en anglais en vue de mener à son terme un projet scientifique en chimie

3.1 Formuler des conclusions pour la rédaction rigoureuse d'un rapport dans un esprit de synthèse (en français).

3.2 Rédiger des documents techniques en chimie (en français et en anglais)

3.3 Communiquer à ses pairs sous forme synthétique, graphique et schématique les résultats d'un projet scientifique (en français).

4. Apprendre et agir de manière autonome

4.1 Intégrer de manière autonome de nouvelles connaissances et compétences

4.2 Gérer de façon autonome sa formation et l'organisation de son travail

4.3 S'auto-évaluer en connaissant ses compétences et les limites de sa propre expertise

5. Faire preuve d'analyse critique et de rigueur scientifique

5.1 Analyser et exploiter des documents scientifiques et techniques en vue de résoudre une problématique de chimie.

5.2 Témoigner d'une ouverture d'esprit, accepter des approches innovantes pour résoudre des problèmes de chimie

5.3 Critiquer une démarche expérimentale et proposer des améliorations

5.4 Rassembler et traiter des données scientifiques pertinentes (en français et anglais) et en faire l'analyse critique

5.5 Citer et référencer son travail conformément aux normes académiques





Year

1 2 3

**o Chimie des matériaux (5 credits)**

○ LCHM1319

Material's chemistry

Charles-André Fustin  
Alexandru Vlad

PR [q2] [45h] [5 Credits]

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## Course prerequisites

The **table** below lists the activities (course units, or CUs) for which there are one or more prerequisites within the programme, i.e. the programme CU for which the learning outcomes must be certified and the corresponding credits awarded by the jury before registering for that CU.

These activities are also identified in the **detailed programme**: their title is followed by a yellow square.

### Prerequisites and student's annual programme

As the prerequisite is for CU registration purposes only, there are no prerequisites within a programme year. Prerequisites are defined between CUs of different years and therefore influence the order in which the student will be able to register for the programme's CUs.

In addition, when the jury validates a student's individual programme at the beginning of the year, it ensures its coherence, meaning that it may:

- require the student to combine registration in two separate CUs which it considers necessary from a pedagogical point of view.
- transform a prerequisite into a corequisite if the student is in the final year of a degree course.

For more information, please consult the [Academic Regulations and Procedures](#).

### # Prerequisites list

**LANG1862** "English: reading and listening comprehension of scientific texts" has prerequisite(s) LANG1861

- LANG1861 - [English: reading and listening comprehension of scientific texts](#)

**LCHM1331** "Chimie inorganique" has prerequisite(s) LCHM1211

- LCHM1211 - [General Chemistry 2](#)

## The programme's courses and learning outcomes

For each UCLouvain training programme, a [reference framework of learning outcomes](#) specifies the skills expected of every graduate on completion of the programme. Course unit descriptions specify targeted learning outcomes, as well as the unit's contribution to reference framework of learning outcomes.

## Detailed programme per annual block

### CHIM1BA - 1ST ANNUAL UNIT

- Mandatory
- ⊗ Optional
- △ Not offered in 2024-2025
- ⊙ Not offered in 2024-2025 but offered the following year
- ⊕ Offered in 2024-2025 but not the following year
- △ ⊕ Not offered in 2024-2025 or the following year
- Activity with requisites
- ⊗ Open to incoming exchange students
- ⊗ Not open to incoming exchange students
- [FR] Teaching language (FR, EN, ES, NL, DE, ...)

Click on the course title to see detailed informations (objectives, methods, evaluation...)

### o Majeure

#### o Chimie générale

- LCHM1111 [General chemistry](#)



**CHIM1BA - 2ND ANNUAL UNIT**

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● Mandatory

⊗ Optional

△ Not offered in 2024-2025

⊖ Not offered in 2024-2025 but offered the following year

⊕ Offered in 2024-2025 but not the following year

△ ⊕ Not offered in 2024-2025 or the following year

■ Activity with requisites

⊗ Open to incoming exchange students

⊗ Not open to incoming exchange students

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**CHIM1BA - 3RD ANNUAL UNIT**

- Mandatory
- ⊗ Optional
- △ Not offered in 2024-2025
- ⊖ Not offered in 2024-2025 but offered the following year
- ⊕ Offered in 2024-2025 but not the following year
- △ ⊕ Not offered in 2024-2025 or the following year
- Activity with requisites
- 🌐 Open to incoming exchange students
- 🚫🌐 Not open to incoming exchange students
- (FR) Teaching language (FR, EN, ES, NL, DE, ...)

Click on the course title to see detailed informations (objectives, methods, evaluation...)

**o Majeure****o Biochimie**

○ LCHM1371	Metabolic biochemistry	Melissa Page	(FR) [q2] [30h] +30h] [5 Credits] 🌐 > French-friendly
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**o Chimie inorganique et analytique**

○ LCHM1331	Inorganic chemistry I ■	Sophie Hermans	(FR) [q1] [37.5h +7.5h] [4 Credits] 🌐
○ LCHM1321	Analytical chemistry 1	Christine Dupont Yann Garcia	(FR) [q1] [40h] [5 Credits] 🌐
○ LCHM1322	Exercices in analytical chemistry	Yann Garcia	(FR) [q1] [0h +66h] [3 Credits] 🌐

**o Chimie organique**

○ LCHM1341	Organic chemistry III	Raphaël Robiette	(FR) [q2] [30h +15h] [4 Credits] 🌐
○ LCHM1342	Exercices in organic chemistry I	Raphaël Robiette Michael Singleton	(FR) [q2] [0h +65h] [3 Credits] 🌐

**o Chimie physique**

○ LCHM1351	Physical chemistry	Tom Leyssens	(FR) [q1] [45h +19h] [5 Credits] 🌐
○ LCHM1353	Quantum Chemistry	Benoît Champagne	(FR) [q1] [22.5h +7.5h] [3 Credits] 🌐

**o Chimie des polymères**

○ LCHM1361	Introduction to polymer chemistry	Jean-François Gohy	(FR) [q2] [22.5h] [3 Credits] 🌐
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**o Chimie des matériaux**

○ LCHM1319	Material's chemistry	Charles-André Fustin Alexandru Vlad	(FR) [q2] [45h] [5 Credits] 🌐
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## o Anglais

o LANG1863	English for Students in Sciences (Upper-Intermediate level)	Ahmed Adriouche (coord.) Catherine Avery (coord.) Amandine Dumont (coord.) Sandrine Jacob (coord.) Adrien Kefer (compensates Amandine Dumont) Nevin Serbest Florence Simon (coord.) Marine Volpe	ES [q1 or q2] [30h] [3 Credits]
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## o Sciences humaines

### o Philosophie

*L'étudiant-e choisit*

*From 2 to 4credit(s)*

⌘ LFILO1250A	Logic (partim)		ES [q2] [45h] [4 Credits]
⌘ LSC1120A	Philosophy		> English- friendly

## CHIM1BA - Information

### Access Requirements

Decree of 7 November 2013 defining the landscape of higher education and the academic organization of studies.

The admission requirements must be met prior to enrolment in the University.

**In the event of the divergence between the different linguistic versions of the present conditions, the French version shall prevail.**

#### SUMMARY

- [General access requirements](#)
- [Specific access requirements](#)
- [Access based on validation of professional experience](#)
- [Special requirements to access some programmes](#)

### General access requirements

Except as otherwise provided by other specific legal provisions, admission to undergraduate courses leading to the award of a Bachelor's degree will be granted to students with one of the following qualifications :

1. A Certificate of Upper Secondary Education issued during or after the 1993-1994 academic year by an establishment offering full-time secondary education or an adult education centre in the French Community of Belgium and, as the case may be, approved if it was issued by an educational institution before 1 January 2008 or affixed with the seal of the French Community if it was issued after this date, or an equivalent certificate awarded by the Examination Board of the French Community during or after 1994;
2. A Certificate of Upper Secondary Education issued no later than the end of the 1992-1993 academic year, along with official documentation attesting to the student's ability to pursue higher education for students applying for a full-length undergraduate degree programme;
3. A diploma awarded by a higher education institution within the French Community that confers an academic degree issued under the above-mentioned Decree, or a diploma awarded by a university or institution dispensing full-time higher education in accordance with earlier legislation;
4. A higher education certificate or diploma awarded by an adult education centre;
5. A pass certificate for one of the [entrance examinations](#) organized by higher education institutions or by an examination board of the French Community; this document gives admission to studies in the sectors, fields or programmes indicated therein;
6. A diploma, certificate of studies or other qualification similar to those mentioned above, issued by the Flemish Community of Belgium, the German Community of Belgium or the Royal Military Academy;
7. A diploma, certificate of studies or other qualification obtained abroad and deemed equivalent to the first four mentioned above by virtue of a law, decree, European directive or international convention;

#### Note:

Requests for equivalence must be submitted to the Equivalence department ([Service des équivalences](#)) of the Ministry of Higher Education and Scientific Research of the French Community of Belgium in compliance with the official deadline.

The following two qualifications are automatically deemed equivalent to the Certificate of Upper Secondary Education (Certificat d'enseignement secondaire supérieur – CESS):

- European Baccalaureate issued by the Board of Governors of a European School,
- International Baccalaureate issued by the International Baccalaureate Office in Geneva.

8. Official documentation attesting to a student's ability to pursue higher education (diplôme d'aptitude à accéder à l'enseignement supérieur - DAES), issued by the Examination Board of the French Community.

### Specific access requirements

- Access to bachelor programmes for candidates of nationality outside the European Union who are not assimilated to Belgian nationals is subject to the following criteria:
  - not have obtained a secondary education diploma for more than 3 years maximum. Example: for an admission application for the academic year 2024-2025, you must have obtained your diploma during the academic years 2021-2022, 2022-2023 ou 2023-2024. In the French Community of Belgium, the academic year runs from September 14 to September 13
  - not already hold an undergraduate degree
- Candidates, whatever their nationality, with a secondary school diploma **from a country outside the European Union**, must have obtained an average of 13/20 minimum or, failing that, have obtained this average, have passed one year of study in Belgium (for example special Maths / sciences). A non-successful year will not be taken into consideration.

- For any secondary school diploma **from a European Union country**, the admission request must contain the equivalence of your diploma or, at the very least, proof of the filing of the equivalence request with the Wallonia-Brussels Federation (French Community of Belgium). For any information relating to obtaining an equivalence, please refer to [the following site](#).
- For any secondary school diploma **from a country outside the European Union**, the admission application must contain the [equivalence of your diploma](#) issued by the Wallonia-Brussels Federation (French Community of Belgium). If you have a restrictive equivalence for the programme of your choice, in addition of it, you **must** have either the [DAES](#) or a certificate of successful completion of the [examination giving access to 1<sup>st</sup> cycle studies](#) when you submit your application

## Access based on validation of professional experience

Admission to undergraduate studies on the basis of accreditation of knowledge and skills obtained through professional or personal experience (Accreditation of Prior Experience)

Subject to the general requirements laid down by the authorities of the higher education institution, with the aim of admission to the undergraduate programme, the examination boards accredit the knowledge and skills that students have obtained through their professional or personal experience.

This experience must correspond to at least five years of documented activity, with years spent in higher education being partially taken into account: 60 credits are deemed equivalent to one year of experience, with a maximum of two years being counted. At the end of an assessment procedure organized by the authorities of the higher education institution, the Examination Board will decide whether a student has sufficient skills and knowledge to successfully pursue undergraduate studies.

After this assessment, the Examination Board will determine the additional courses and possible exemptions constituting the supplementary requirements for the student's admission.

## Special requirements to access some programmes

- Admission to **undergraduate studies in engineering: civil engineering and architect**

Pass certificate for the [special entrance examination for undergraduate studies in engineering: civil engineering and architect](#).

Admission to these courses is always subject to students passing the special entrance examination. Contact the faculty office for the programme content and the examination arrangements.

- Admission to **undergraduate studies in veterinary medicine**

[Admission to undergraduate studies in veterinary medicine is governed by the Decree of 16 June 2011 and possible exemptions constituting](#)





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<https://uclouvain.be/fr/facultes/sc/chim>

Website

Academic supervisor: [Olivier Riant](#)

Jury

- President and Study advisor: [Benjamin Elias](#)
- Secretary: [Marc de Wergifosse](#)

Useful Contact(s)

- Administrative manager for the student's annual program: [Nathalie Micha](#)

