

CHIM2M - Introduction

Introduction

Introduction

This master's degree trains top-level scientists able to solve contemporary problems linked to chemistry; it provides a solid theoretical formation and develops experimental ability, synthetic and critical way of thinking, as well as the rigour of scientific reasoning and expression.

The completion of a final year dissertation (master thesis) in one of the laboratories of the Institute of Condensed Matter and Nanosciences or the Institute of Biomolecular Science and Technology furthermore constitutes an initiation to research, opening the door to a potential doctorate.

Your profile

You

- want to help solve the great challenges of our time by creating new molecules with novel properties
- would like to work in university or public research institutes, in industrial laboratories,
- wish to develop experimental tools and sharp knowledge in advanced chemistry,
- envision to teach chemistry in upper secondary education classes.

Your future job

Chemistry is constantly developing and offers many job prospects. Industry is one of the largest employers: petrochemicals, pharmaceuticals, biotechnology, plastics and polymers, paint manufacturing, cosmetics, dyes, waste recycling, etc.

The chemist also puts his-her skills at the service of research (research institutes or industrial laboratories). Chemistry also opens up career opportunities in education, computer science, banking and insurance and other sometimes unsuspected professions. The environment is now an increasingly demanding sector.

Your programme



This master offers you








- a solid theoretical training in the fundamental orientations of chemistry ;
- high experimental and advanced research skills in chemistry;
- great freedom in setting up your program;
- an opportunity to test your skills in the field, in a research lab, in industry or in a high school class;
- the possibility of completing your internship or part of your Master's degree abroad.

Year

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O deux cours parmi les quatre suivants : (6 credits)

⌘ LCHM2151	Advanced mass spectrometry	Charles-André Fustin	EN [q1] [22.5h+7.5h] [3 Credits]  > French-friendly	X	X
⌘ LCHM2152	NMR Complements	Michael Singleton	EN [q1] [22.5h+7.5h] [3 Credits]  > French-friendly	X	X

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				1	2
⌘ LCHM2260	Electrochemical Energy storage	Alexandru Vlad	EN [q1] [22.5h] [3 Credits]  > French-friendly		X
⌘ LCHM2261A	Polymer Chemistry and Physical Chemistry (part 1 : Polymer Chemistry)	Charles-André Fustin Jean-François Gohy	EN [q1] [22.5h+7.5h] [3 Credits]  > French-friendly		X
⌘ LCHM2261B	Polymer Chemistry and Physical Chemistry (part 2 : Polymer Physical Chemistry)	Alain Jonas	EN [q1] [22.5h+7.5h] [2 Credits]  > French-friendly		X
⌘ LCHM2281	Photochemistry	Ludovic Troian-Gautier	EN [q2] [22.5h+7.5h] [3 Credits]  > French-friendly	X	X
⌘ LMAPR2012	Polymers for advanced technologies	Sophie Demoustier Karine Glinel Jean-François Gohy Bernard Nysten	EN [q2] [45h+15h] [5 Credits]  > French-friendly		X
⌘ LMAPR2016	Project in Polymer Science	Charles-André Fustin Alain Jonas	EN [q2] [30h+15h] [5 Credits]  > French-friendly		X
⌘ LBIR1362	Environmental Economics	Frédéric Gaspard	FR [q2] [30h+7.5h] [3 Credits] 		

LIST OF FOCUSES

Three focused orientations are proposed that should be selected in view of your professional intentions at the end of your studies:

- « in-depth chemistry »: internship will be realized in a research laboratory ;
- « specialized : chemical industry »: internship will be realized in a company active in the chemical field ;
- « didactic »: this direction leads to the teaching profession.

However, this focus is not limiting for your future professional career as it only concerns 30 credits; employment opportunities and your future choices will be equally important.

- > [Research Focus](#) [en-prog-2024-chim2m-lchim200a]
- > [Teaching Focus](#) [en-prog-2024-chim2m-lchim200d]
- > [Professional Focus : Industrial Chemistry](#) [en-prog-2024-chim2m-lchim200s]

RESEARCH FOCUS [30.0]

- 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...)

Year

1 2

Content:

⊗ LCHM2295	Research internship		EN [q2] [] [30 Credits] 🌐 > French-friendly	x
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TEACHING FOCUS [30.0]

IMPORTANT NOTE: In accordance with article 138 para. 4 of the decree of 7 November 2013 concerning higher education and the academic organisation of studies, teaching practice placements will not be assessed in the September session. Students are required to make every effort to successfully complete the teaching practice in the June session, subject to having to retake the year.

- 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...)

PROFESSIONAL FOCUS : INDUSTRIAL CHEMISTRY [30.0]

- 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...)

Year

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o Content:

● LCHM2275	Stage en entreprise		EN [q2] [] [30 Credits] 🌐 > French-friendly	x
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OPTIONS

- > [Optional courses](#) [en-prog-2024-chim2m-lsc100o]
- > [INEO, Interdisciplinary training in entrepreneurship](#) [en-prog-2024-chim2m-lboe955o]

OPTIONAL COURSES

- Mandatory
- ⊗ Optional
- △ Not offered in 2024-2025
- ⊖ Not offered in 2024-2025 but offered the following year
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- △ ⊕ Not offered in 2024-2025 or the following year
- Activity with requisites
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Click on the course title to see detailed informations (objectives, methods, evaluation...)

These credits are not counted within the 120 required credits.

Year

1 2

o Content:

⊗ LSST1001	IngénieursSud	Stéphanie Merle Jean-Pierre Raskin	FR [q1+q2] [15h+45h] [5 Credits] 🌐	x x
⊗ LSST1002M	Information and critical thinking - MOOC			

INEO, INTERDISCIPLINARY TRAINING IN ENTREPRENEURSHIP

- 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...)

This option lasts 2 years and is integrated into more than 30 Masters programs in 9 faculties/schools of the UCLouvain. The choice of this option implies the realization of an interfaculty dissertation (in team) on a business creation project. Access is limited to students selected on the basis of a portfolio. More info. via <https://uclouvain.be/en/study/ineo>

Admission to this CPME option is subject to selection, please submit your application in due time <https://uclouvain.be/fr/etudier/ineo/admission.html>

Courses in this option cannot be taken individually outside of the option.

From 20 to 25credit(s)

Year

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Content:

⊗ LINEO2021	Financer son projet <i>Ce cours est obligatoire pour les étudiants qui n'ont pas de prérequis en gestion (les étudiants qui ont suivi la mineure en gestion, ou la mineure en esprit d'entreprendre sont dispensés de ce cours).</i>	Philippe Grégoire Olivier Vercrusse	FR [q2] [30h+15h] [5 Credits] 🌐	X	
● LINEO2001	Théorie de l'entrepreneuriat	Frank Janssen	FR [q1] [30h+20h] [5 Credits] 🌐	X	
● LINEO2002	Aspects juridiques, économiques et managériaux de la création d'entreprise	Yves De Cordt Marine Falize	FR [q1] [30h+15h] [5 Credits] 🌐	X	
● LINEO2004	Séminaire d'approfondissement en entrepreneuriat	Frank Janssen	FR [q2] [30h+15h] [5 Credits] 🌐	X	
● LINEO2003	Plan d'affaires et étapes-clefs de la création d'entreprise	Frank Janssen	FR [q2] [30h+15h] [5 Credits] 🌐		X

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- Activity with requisites
- 🌐 Open to incoming exchange students
- 🌐 Not open to incoming exchange students

[FR]

Course prerequisites

There are no prerequisites between course units (CUs) for this programme, i.e. the programme activity (course unit, CU) whose learning outcomes are to be certified and the corresponding credits awarded by the jury before registration in another CU.

The programme's courses and learning outcomes

For each UCLouvain training programme, a [reference framework of learning outcomes](#) specifies the 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.

CHIM2M - Information

Access Requirements

Non university Bachelors

> Find out more about [links](#) to the university



Specific professional rules

Successful completion of the master's course with **teaching focus** leads to the award of the master's degree with teaching focus and the title of secondary school education specialist.

The [Réforme des Titres et Fonctions](#) ("Titles and Functions Reform"), in force since 1 September 2016, is intended to harmonise the titles, functions and pay scales of basic and secondary education professionals in French Community of Belgium networks.

It also aims to guarantee the priority of preferred titles over minimum titles and to establish a regime for titles in short supply.

AESS holders can learn which functions they can carry out and the pay scales from which they can benefit by [clicking here](#).

The university cannot be held responsible for any problems that students may encounter at a later date with a view to a teaching appointment in the French Community of Belgium.

Teaching method

The program has been built as to

- maintain a reasonable volume of activities, compatible with the realization of a master thesis and a research training that properly prepares for the doctorate.
- promote interdisciplinarity (integrated practical works) and develop scientific communication skills (bibliographic research, presentation of seminars in French and English).

Students of the Didactic Finality may pursue a didactic deepening in biological, mathematical, physical or geographic sciences. For this specialization a in depth knowledge of the French language is required.

Evaluation

The evaluation methods comply with the [regulations concerning studies and exams](#). More detailed explanation of the modalities specific to each learning unit are available on their description sheets under the heading "Learning outcomes evaluation method".

The student will be evaluated mainly on the basis of his or her personal work (reading, consulting bibliographic databases and references, writing reports, presenting seminars, dissertation, internship, etc.).

The student will also be assessed on his capacity to assimilate the various courses. Where possible, evaluation will be continuous, including regular "open book" tests. The evaluation of the thesis will be done in two stages: during a progress report meeting and during the final presentation.

In order to obtain the average note, the grades obtained for the teaching units are weighted by their respective credit value.

If a student enrolled in a January examination has not been able to present the examination for duly justified reasons ("force majeure"), he may apply to the President of the Jury for permission to present the examination in June. The President of the Jury shall judge the relevance of the application and, if the course holder agrees, may authorize the student to present the examination in June.

Mobility and/or Internationalisation outlook

Two mobility schemes (30 credits) are provided for in the Master's in-depth program:

- Erasmus-Socrates or Mercator research internship outside Belgium, or internship in another Belgian institution, including courses or practical work (according to agreements to be negotiated with the host institution)
- An internship (15 credits) in a UCLouvain laboratory different from the one where the thesis will be carried out, and practical work complements to familiarize the student with the main techniques in the different orientations of chemistry (15 credits, 180 hours, or 4.5 weeks).

In the specialised master's program, the same principle of mobility of 30 or 15 credits will be possible, with a preference for an internship in an industrial company, Belgian or foreign.

The mobility is ideally performed in the 2nd term of the 1st year. Master thesis and complementary training are the focus of the 2nd year of the master degree.

The list of destinations as well as the arrangements for organizing international mobility are available at <https://uclouvain.be/fr/facultes/sc/programmes-d-echange-d-etudiants.html>

Possible trainings at the end of the programme

Whatever focus is chosen, the Master in Chemistry gives direct access to the doctorate in science.

Contacts

Additional information

You will find additional information

- on the website of the School of Chemistry <https://uclouvain.be/fr/facultes/sc/chim>
- on the website of the Faculty of Science <https://uclouvain.be/en/faculties/sc>

Curriculum Management

Entity

Structure entity

Denomination

Faculty

Sector

SST/SC/CHIM

(CHIM)

Faculty of Science (SC)

