UCLouvain

BICL2MC

2026 - 2027

Advanced Master in Clinical Biology

At Bruxelles Woluwe - 300 credits - 5 years - Day schedule - In French
Dissertation/Graduation Project : **YES** - Internship : **YES**
Activities in English: **NO** - Activities in other languages : **NO**
Activities on other sites : **NO**
Main study domain : **Sciences biomédicales et pharmaceutiques**
Organized by: **Faculty of Pharmacy and Biomedical Sciences (FASB)**
Programme acronym: **BICL2MC** - Francophone Certification Framework: 7

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BICL2MC - Introduction

Introduction

BICL2MC - Teaching profile

Learning outcomes

The specialist candidate assistant pharmacist (pharmacien assistant candidat spécialiste - PHACS) in clinical biology programme is spread over five years and prepares students for employment in a private or hospital biological analysis laboratory, with the emphasis on aspects of research in the field of clinical biology. This academic training is accompanied by the compulsory submission to the Ministry of Public Health of a 60-month work placement plan, in accordance with Belgian legal requirements, which confers entitlement to an authorisation to practise clinical biology in the field of medical chemistry, haematology and microbiology.

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

1 Laboratory management

1.a Understand and update pre-analytical, analytical and post-analytical processes.
1.b Anticipate long-term technical developments.
1.c Supervise technical staff (schedule management, training, recruitment, assessment, education fees, etc.).
1.d Coordinate tasks within a group of biologists.
1.e Ensure the preparation and monitoring of and compliance with the budget of a clinical biology laboratory.

2 Quality management

2.a Ensure the quality of the results of biomedical analyses.
2.b Develop and monitor compliance with quality assurance procedures.
2.c Ensure the traceability of services.
2.d Interpret the results of internal and external quality checks and improve the laboratory's performance.
2.e Be familiar with and understand the different standards for the validation of analytical methods.

3 Sense of responsibility

3.a Prevent, correct and manage cases of non-compliance and errors likely to occur during the analytical processes.
3.b Monitor the analytical protocols carefully and critically; be able to detect and respond effectively to any abnormal or pathological result.
3.c Integrate the various available medical data in order to validate the biological results produced by the laboratory.
3.d Take responsibility for decision-making

4 Communication

4.a Collaborate and communicate with other healthcare providers, particularly with the clinicians who are responsible for the patient.
4.b Manage internal and external disputes (complaints, claims, etc.) .
4.c Ensure the transmission of information within and outside the laboratory (new techniques, new analyses, etc.).
4.d Attend multidisciplinary clinical meetings.
4.e Read a scientific article from a critical perspective and understand the principles of evidence-based medicine

5 Ability to convey knowledge

5.a Write a scientific article (French/English).
5.b Present a scientific communication (French/English) in the field of clinical biology or another area of medicine .
5.c Provide training within or outside the laboratory.
5.d

Communicate as an expert-consultant with regard to other medical specialities

6 Ability to rapidly master a new area of expertise

6.a Apply their knowledge and skills in a new context .
6.b Familiarise themselves with and understand new technologies.

7 Mobility

7.a Be sufficiently independent to travel in Belgium and abroad.

Programme structure

The "basic training" (also called "common core") of this program includes 2 years. Each year is sanctioned by a test. Admission to the 2nd annual block requires the complete success of the 1st annual block.

The basic training of the specialist candidate in clinical biology is versatile: it includes theoretical and practical teaching supplemented by supervised internships in each of the three areas of clinical biology: medical chemistry (including hormonology, toxicology and monitoring therapy), microbiology (bacteriology, mycology, parasitology, virology) and hematology (including coagulation, hemostasis, cytology and blood banking). Applications of immunology in these three areas are also included.

Additional training in human biology as well as training in sampling techniques are included in these first two years.

The candidate specialist will be required to attend or participate in didactic and scientific activities, as indicated by the Commission.

During their studies, specialist candidates participate in the guards assigned to them.

During full-time internships in the three areas of clinical biology for a minimum of 6 months for each of them, theoretical and practical lessons are given simultaneously. Their distribution between the different blocks of the specialization is shown below.

In addition to the basic training, the candidate specialist continues with three years of training corresponding to the "higher education" provided for in the appendix to the Royal Decree of 3-9-84. All internships must be carried out with internship supervisors approved for this purpose by the Ministry of Public Health, and in approved internship services.

The higher education is dedicated to:

either for three years in one of the three areas of clinical biology;

or for three years in addition to two or three areas of clinical biology, the higher education in each of these branches not being able to be less than one year.

BICL2MC Programme

Detailed programme by subject

CORE COURSES

Le Master complémentaire en biologie clinique est un programme en 5 ans. Nous rencontrons actuellement un problème pour l'affichage ci-dessous de la cinquième année (cinquième colonne).

- Mandatory
- Optional
- Not offered in 2026-2027
- Not offered in 2026-2027 but offered the following year
- Offered in 2026-2027 but not the following year
- Not offered in 2026-2027 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...)

Premier bloc annuel (60 credits)

				Year 1	2	3	4	5
WBCMM2301	Formation universitaire spécifique en biologie clinique 1re année	Hector Rodriguez-Villalobos (coord.)	FR [q1] [35h] [4 Credits]	x				
WBCMM22041	Séminaires de biologie clinique post gradués, 1re année		FR [q2] [8h] [2 Credits]	x				
WBICL2100	Further Development in Clinical Chemistry	Lidvine Boland Emilie Catry Joseph Dewulf Catherine Fillee Damien Gruson (coord.) Vincent Haufroid	FR [q1] [50h] [4 Credits]	x				
WBICL2107	Principe et méthodologie des dosages immunologiques	Damien Gruson	FR [q2] [15h] [2 Credits]	x				
WBICL2105	Apports de la biologie au diagnostic des principales maladies endocriniennes	Orsalia Alexopoulou Damien Gruson (coord.)	FR [q1] [22.5h] [2 Credits]	x				
WFARM2502	Introduction to analytical toxicology	Lidvine Boland	FR [q2] [22.5h] [2 Credits]	x				

				Year 1	2	3	4	5
WMDS2221	Secteur hématologie	Bénédicte Brichard Véronique Deneys Violaine Havelange Cédric Hermans (coord.) Catherine Lambert Xavier Poire An Van Damme Eric Van Den Neste	FR [q1] [48h] [4 Credits]	x				
WBCMM2201	Hémopathies : de l'hémogramme à la moléculaire. Approche biologique multidisciplinaire.	Pascale Saussoy (coord.) Corentin Streel	FR [q1] [15h] [3 Credits]	x				
WBICL2102	Complements in microbiology	Ahalieyah Anantharajah Te-Din Huang Hector Rodriguez-Villalobos (coord.) Anaïs Scohy Françoise Van Bambeke Alexia Verroken	FR [q2] [60h] [4 Credits]	x				
WBICL2103	Complements in Virology	Ahalieyah Anantharajah Pierre Bogaerts Géraldine Dessilly Maria Isabel Montesinos Anaïs Scohy (coord.) Giulia Zorzi	FR [q1] [45h] [3 Credits]	x				
WBICL2104	New aspects on the use of autoimmune serology	Damien Gruson (coord.) Giulia Zorzi	FR [q1] [15h] [2 Credits]	x				
WBICL2108	Seminars of clinical chemistry and blood sampling	Lidvine Boland Joseph Dewulf Catherine Fillee Damien Gruson (coord.) Vincent Haufroid Diane Maisin	FR [q2] [20h+45h] [3 Credits]	x				
WBICL2381	Stage de biologie clinique 1re année, 1re partie		FR [q1+q2] [] [15 Credits]	x				
WBICL2391	Stage de biologie clinique 1re année, 2e partie		FR [q3] [] [10 Credits]	x				

Deuxième bloc annuel (60 credits)

WBCMM22042	Séminaires de biologie clinique post gradués, 2e année		FR [q2] [8h] [2 Credits]		x			
WBCMM2302	Formation universitaire spécifique en biologie clinique 2e année	Hector Rodriguez-Villalobos (coord.)	FR [q1] [35h] [4 Credits]		x			
WBICL2382	Stage de biologie clinique 2e année, 1re partie		FR [q1+q2] [] [30 Credits]		x			
WBICL2101	Questions spéciales d'immunologie, d'immunohématologie et de transfusion	Véronique Deneys Pascale Saussoy (coord.) Corentin Streel	FR [q2] [45h] [4 Credits]		x			
WBICL2392	Stage de biologie clinique 2e année, 2e partie		FR [q3] [] [18 Credits]		x			
WBICL2110	Eléments de statistique appliqués à la biologie clinique	Catherine Fillee	FR [q1] [15h] [2 Credits]		x			

Troisième bloc annuel (60 credits)

WBCMM22043	Séminaires de biologie clinique post gradués, 3e année		FR [q2] [8h] [2 Credits]			x		
WBICL2106	Informatique appliquée à la biologie clinique	Catherine Fillee (coord.)	FR [q1] [15h] [2 Credits]			x		
WBICL2383	Stage de biologie clinique 3e année, 1re partie		FR [q1+q2] [] [30 Credits]			x		
WBICL2393	Stage de biologie clinique 3e année, 2e partie		FR [q3] [] [26 Credits]			x		

Quatrième bloc annuel (60 credits)

WBCMM22044	Séminaires de biologie clinique post gradués, 4e année		FR [q2] [8h] [2 Credits]				x	
WBCMM2203	Questions spéciales d'hémostase	Marie-Astrid van Dievoet	FR [q2] [45h] [4 Credits]				x	
WBICL2384	Stage de biologie clinique 4e année, 1re partie		FR [q1+q2] [] [30 Credits]				x	
WBICL2394	Stage de biologie clinique 4e année, 2e partie		FR [q3] [] [24 Credits]				x	

Cinquième bloc annuel (60 credits)

WBCMM22045	Séminaires de biologie clinique postgradués, 5e année		FR [q2] [8h] [2 Credits]					x

				Year 1	2	3	4	5
WBICL2385	Stage de biologie clinique 5e année, 1re partie		FR [q1+q2] [] [30 Credits]					x
WBICL2395	Stage de biologie clinique 5e année, 2e partie		FR [q3] [] [13 Credits]					x
WBICL2355	Mémoire de biologie clinique		FR [q3] [] [15 Credits]					x

Enseignement complémentaire facultatif

Selon l'intérêt et le projet de l'étudiant, les cours suivants (ou d'autres cours) peuvent être choisis par l'étudiant en complément de la formation ou en remplacement de l'un ou l'autre enseignement obligatoire en accord avec le responsable du programme.

WSBIM2230	Biochemistry of inborn errors of metabolism	Joseph Dewulf (coord.) Marie-Cécile Nassogne	FR [q1] [30h] [3 Credits]	x	x	x	x	x
WHOPI2108	Applications cliniques en pharmacocinétique et pharmacogénomique	Laure Elens Vincent Haufroid (coord.) Jean-Luc Vaerman	FR [q1] [25h+10h] [4 Credits] > *English-friendly*	x	x	x	x	x

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.

BICL2MC - Information

Access Requirements

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

Unless explicitly mentioned, the bachelor's, master's and licentiate degrees listed on this page are to be understood as those issued by an institution of the French, Flemish or German-speaking Community, or by the Royal Military Academy.

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

General access requirements

Translated from https://www.gallilex.cfwb.be/fr/leg_res_01.php?ncda=39681&referant=l02

Art. 112. of the "Décret définissant le paysage de l'enseignement supérieur et l'organisation académique des études" :

§ 1. In accordance with the general requirements established by the academic authorities, students who have:

1. a master's degree;

2. an academic degree similar to the one mentioned in the preceding paragraph awarded by a higher education institution in the Flemish Community or the German-speaking Community, or by the Royal Military Academy, by virtue of a decision of the academic authorities and in accordance with any additional requirements they may establish;

3. a foreign academic degree deemed equivalent to the one mentioned in paragraph 1, in accordance with this Decree, a European directive, an international convention or other legislation, in accordance with the same requirements.

The additional admission requirements referred to in paragraph 2 are intended to ensure that the student has acquired the knowledge and skills required for the studies in question. When the additional admission requirements consist of one or more additional course units, these may not represent more than 60 additional credits for the student, taking into account all the credits that he or she may otherwise use for admission. These course units are part of the student's study programme.

§ 2. In accordance with the general requirements established by the academic authorities, a student who holds a title, diploma, degree or certificate of higher education, in the French Community or outside it, which does not grant him or her eligibility for admission to a specialised master's course by virtue of the preceding paragraph, may nevertheless be admitted by the jury of the course in question, in accordance with the additional requirements that it establishes, if the totality of the higher education that he or she has completed or the expertise that he or she has acquired is valued by the jury to be at least 240 credits.

§ 3. By way of derogation from these general requirements, the academic authorities may also admit to a specialised master's course holders of a title, diploma, degree or certificate awarded outside the French Community which, in that system of origin, grants direct eligibility for postgraduate studies, even if the studies sanctioned by these credentials are not organised into distinct degree courses or within a time period of at least five years.

Specific access requirements

Specific Admission Requirements

L'admission est conditionnée à deux critères :

- la possession d'un diplôme belge ou européen de master en Sciences Pharmaceutiques,
- la sélection lors du concours organisé par la commission d'enseignement de la biologie clinique de l'école de pharmacie.

Toute demande doit être introduite au secrétariat de l'école de pharmacie avec dossier complet (incluant un relevé intégral des résultats académiques du candidat, un curriculum vitae complet et une lettre de candidature et de motivation) au plus tard durant le mois de mai précédant l'année académique sollicitée. Une sélection sera opérée par un Concours organisé au début du mois de juillet. En fonction du nombre de dossier reçus, une première pré-sélection pourra être établie par le jury dans le but de limiter le nombre de candidats invités à se présenter au Concours. Le jury attire l'attention des candidats sur le fait que la maîtrise du français est indispensable pour pouvoir suivre les formations avec fruit. Le nombre de mandats rémunérés est limité. Le jury reste souverain dans les décisions.

Les candidats étudiants non francophones devront apporter la preuve, dans leur demande d'admission, d'une maîtrise suffisante de la langue française (niveau B1 du Cadre européen commun de référence , pages 24 à 29)

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Evaluation

The evaluation methods comply with the Academic regulations and procedures . More detailed explanation of the modalities specific to each learning unit are available on their description sheets under the heading "Learning outcomes evaluation method".

Contacts

Curriculum Management

Faculty

Structure entity	SSS/FASB
Denomination	Faculty of Pharmacy and Biomedical Sciences (FASB)
Sector	Health Sciences (SSS)
Acronym	FASB
Postal address	Avenue Mounier 73 - bte B1.73.02 1200 Woluwe-Saint-Lambert

Mandate(s)

- Dean : Raphaël Frédérick

Commission(s) of programme

- Ecole de pharmacie (FARM)

Other academic Supervisor(s)

- vincent.haufroid@uclouvain.be

Jury

- Président du jury d'examens: vincent.haufroid@uclouvain.be
- Secrétaire du jury d'examens: damien.gruson@uclouvain.be

Useful Contact(s)

- Secrétariat et gestion des admissions: guillaume.arnould@uclouvain.be