

SBIM1BA - Introduction

Introduction

SBIM1BA - Teaching profile

Learning outcomes

Bachelor in Biomedicine students must endeavour to prepare themselves for the training offered in the various Master's programmes taught by the School of Biomedical Sciences. To this end, students will apply themselves to acquiring the knowledge and skills that will enable them to become specialists in a field of biomedicine and play an integral part in a scientific project.

As part of the Bachelor in Biomedicine programme, students will study in detail the basic scientific foundations required to practise biomedicine and will discover a variety of specific areas of biomedical research. These activities will enable them to decide on their training projects for the Master's programme. In addition, practical lab work will enable Bachelor students to acquire the professional skills that they will develop during the Master's programme with increasing robustness and independence.

The objective of the School of Biomedical Sciences is to produce health sector professionals capable of conducting and interpreting scientific projects intended to improve the understanding, diagnosis and treatment of human diseases. In particular, the training is aimed at developing the skills required for the acquisition and analysis of observations and experiments in biomedicine, while at the same time cultivating scientific robustness and integrity.

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

1 Use the tools required to acquire integrated knowledge in biomedicine

1.a Incorporate the general knowledge and methodologies in experimental biomedicine: biochemistry and molecular biology; cellular biology, general and special histology, general anatomy; general and special physiology; principal pathologies and their multifactorial pathogenesis, genetic diseases as experiments by nature; the major principles of pharmacology.

1.b Describe the experimental approaches and observation methods that resulted in this knowledge base.

1.c Use modern knowledge sources to effectively research pertinent, new and specific information.

2 Master the culture of numbers and representations

2.a Understand units and deal with orders of magnitude; use the standardisations and tests limiting the dispersion of experimental measurements; use reasoning and statistical tools; use forms of graphical representation.

2.b Understand the functions and rules of modern mathematical modelling; understand the mathematical translation of the major laws of physics, chemistry and biology (speed and constants, flux, interactions and affinity); identify the crucial limiting parameters.

2.c Display command of the IT tools that assist analysis and calculation.

3 Conduct biomedical experiments

3.a Formulate a biomedical problem, translate it into a scientific question and determine an experimental strategy to deal with it.

3.b Execute the successive steps of an experimental protocol:

i.e.:

- understand and accurately describe them, so that they may be reproduced by another scientist.

3.c Conduct experiments:

i.e.:

- manipulate biological and chemical equipment, demonstrating manual dexterity and observing laboratory best practices, including safety and waste management standards;

- use measuring and imaging instruments appropriately, as well as the IT tools associated with them;


- ensure effective reproducibility through accurate and thorough know-how.

4 Analyse, write and evaluate data from biomedical experiments

4.a Robustly analyse the observations in order to draw interpretations from them; identify analogical and deductive reasonings; identify correlation and causality.

4.b On the basis of the above reasonings, present a detailed argument of the results by comparing them with the bibliographical data (critical analysis).

4.c Recognise the failures and identify their causes.

				Year		
				1	2	3
<p>○ WFARM2139T</p>	<p>Pharmacokinetic, genomics and toxicology (toxicology part)</p> <p>■</p>	<p>Laure Bindels (coord.)</p>	<p>PK [q1] [22h] [3 Credits] </p> <p>> English-friendly</p>			x
<p>○ WSBIM1320</p>	<p>Introduction to experimental approaches in cellular and molecular biology</p> <p>■</p>					

List of available minors

During the bachelor's of Biomedical Sciences, personally selected options will give the student the opportunity to become more familiar with the different branches available at master's level.

Instead of the options, the bachelor's may also include a "minor" which will enable the student to open up new horizons.

- > [Minor in Law \(access\)](#) [en-prog-2023-minadro]
- > [Minor in Antiquity: Egypt, Eastern World, Greece, Rome](#) [en-prog-2023-minanti]
- > [Minor in History of Art and Archeology](#) [en-prog-2023-minarke]
- > [Minor in Chinese studies](#) [en-prog-2023-minchin]
- > [Minor in Information and Communication](#) [en-prog-2023-mincomu]
- > [Minor in Criminology](#) [en-prog-2023-mincrim]
- > [Minor in Culture and Creation](#) [en-prog-2023-mincucreea]
- > [Minor in Scientific Culture](#) [en-prog-2023-mincults]
- > [Minor in Development and Environment](#) [en-prog-2023-mindenv]
- > [Minor : Issues of Transition and Sustainable Development \(*\)](#) [en-prog-2023-mindd]
- > [Minor in Economics](#) [en-prog-2023-minecon]
- > [Minor in European Studies](#) [en-prog-2023-mineuro]
- > [Minor in French Studies \(*\)](#) [en-prog-2023-minfran]
- > [Minor in Gender Studies](#) [en-prog-2023-mingenre]
- > [Minor in Mangement \(basic knowledge\)](#) [en-prog-2023-minogest]
- > [Minor in History](#) [en-prog-2023-minhist]
- > [Minor in Human and Social Sciences](#) [en-prog-2023-minhuso]
- > [Minor in Arabic language and Islamic civilization](#) [en-prog-2023-minislam]
- > [Minor in Philosophy](#) [en-prog-2023-minfilo]
- > [Minor in Linguistics](#) [en-prog-2023-minling]
- > [Minor in Literary Studies](#) [en-prog-2023-minlitt]
- > [Minor in Medieval Studies](#) [en-prog-2023-minmedi]
- > [Minor in Musicology](#) [en-prog-2023-minmusi]
- > [Minor in Law \(openness\)](#) [en-prog-2023-minadro]
- > [Minor in Economics \(open\)](#) [en-prog-2023-minoeco]
- > [Minor in Oriental Studies](#) [en-prog-2023-minori]
- > [Minor in Sciences of Religions \(openness\)](#) [en-prog-2023-minreli]
- > [Minor in Sociology and Anthropology](#) [en-prog-2023-minsoca]
- > [Minor in Population and Development Studies](#) [en-prog-2023-minsped]
- > [Minor in Political Sciences](#) [en-prog-2023-minspol]
- > [Minor in Statistics, Actuarial Sciences and Data Sciences](#) [en-prog-2023-minstat]
- > [Minor in numerical technologies and society](#) [en-prog-2023-minstic]
- > [Minor in Christian Theology](#) [en-prog-2023-mintheo]
- > [Minor in Medication Sciences](#) [en-prog-2023-minfarm]
- > [Additionalnal module in Biomedical Sciences ion Sciences io TJ 0.6 g /F2 6.944 Tfmusi \]](#)

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](https://uclouvain.be/fr/decouvrir/rgee.html) (<https://uclouvain.be/fr/decouvrir/rgee.html>).

Prerequisites list

LANGL1855 "Anglais médical" has prerequisite(s) LANGL1854

- LANGL1854 - [Medical English](#)

LANGL2454 "Anglais pour étudiants en sciences biomédicales" has prerequisite(s) LANGL1855

- LANGL1855 - [Medical English](#)

WFARM1202 "Eléments d'épidémiologie appliquée aux sciences pharmaceutiques et biomédicales" has prerequisite(s) WFARM1247 ET WSBIM1207 ET LANGL1855

- WFARM1247 - [Statistical data processing](#)
- WSBIM1207 - [Introduction to bioinformatics](#)
- LANGL1855 - [Medical English](#)

WFARM1213S "Physiologie des systèmes et éléments de physiopathologie - (partim SBIM)" has prerequisite(s) WMD1120 ET WFARM1009 ET WMD1006

- WMD1120 - [General biology and an experimental approach to biology](#)
- WFARM1009 - [Elements of general and functional anatomy](#)
- WMD1006

- WSBIM1302** "Virologie moléculaire" has prerequisite(s) WSBIM1227 ET WFARM1282
- WSBIM1227 - [Molecular biology and integrated biochemistry](#)
 - WFARM1282 - [General microbiology](#)
- WSBIM1305** "Introduction à la nutrition humaine" has prerequisite(s) WFARM1221S ET WSBIM1206
- WFARM1221S - [Biochemistry and molecular biology](#)
 - WSBIM1206 - [From nutrient to food](#)
- WSBIM1313** "Design expérimental en sciences biomédicales" has prerequisite(s) WFARM1221S ET WSBIM1226 ET WSBIM1227 ET WMDS1230 ET WSBIM1293 ET WFARM1282 ET WSBIM1201T ET WSBIM1200
- WFARM1221S - [Biochemistry and molecular biology](#)
 - WSBIM1226 - [Molecular biology \(including epigenetics\) and tutorials](#)
 - WSBIM1227 - [Molecular biology and integrated biochemistry](#)
 - WMDS1230 - [Biologie cellulaire médicale et expérimentale](#)
 - WSBIM1293 - [Training course in cell biology](#)
 - WFARM1282 - [General microbiology](#)
 - WSBIM1201T - [General physiology - General physiology \(theory part, 40h\)](#)
 - WSBIM1200 - [Biomedical instrumental analysis and radiation protection](#)
- WSBIM1320** "Introduction aux approches expérimentales de la biologie cellulaire et moléculaire" has prerequisite(s) WSBIM1226 ET WSBIM1227 ET WMDS1230 ET WSBIM1211 ET LANGL1855 ET WSBIM1200
- WSBIM1226 - [Molecular biology \(including epigenetics\) and tutorials](#)
 - WSBIM1227 - [Molecular biology and integrated biochemistry](#)
 - WMDS1230 - [Biologie cellulaire médicale et expérimentale](#)
 - WSBIM1211 - [Methodology of cell and molecular biology](#)
 - LANGL1855 - [Medical English](#)
 - WSBIM1200 - [Biomedical instrumental analysis and radiation protection](#)
- WSBIM1322** "Bioinformatique" has prerequisite(s) WFARM1247 ET WSBIM1207 ET LANGL1855
- WFARM1247 - [Statistical data processing](#)
 - WSBIM1207 - [Introduction to bioinformatics](#)
 - LANGL1855 - [Medical English](#)
- WSBIM1323** "Neurosciences systémiques" has prerequisite(s) WSBIM1201T ET WSBIM1201P ET WSBIM1220
- WSBIM1201T - [General physiology - General physiology \(theory part, 40h\)](#)
 - WSBIM1201P - [General physiology - General physiology \(practical part, 25h\)](#)
 - WSBIM1220 - [Neurobiology](#)
- WSBIM1334** "Immunologie générale" has prerequisite(s) WFARM1221S ET WSBIM1226 ET WSBIM1227 ET WMDS1230 ET WFARM1282
- WFARM1221S - [Biochemistry and molecular biology](#)
 - WSBIM1226 - [Molecular biology \(including epigenetics\) and tutorials](#)
 - WSBIM1227 - [Molecular biology and integrated biochemistry](#)
 - WMDS1230 - [Biologie cellulaire médicale et expérimentale](#)
 - WFARM1282 - [General microbiology](#)
- WSBIM1335** "Introduction à la physiopathologie" has prerequisite(s) WSBIM1201T ET WFARM1213S
- WSBIM1201T - [General physiology - General physiology \(theory part, 40h\)](#)
 - WFARM1213S - [Human physiology and basics of physiopathology - \(Partim SBIM\)](#)
- WSBIM1382** "Génétique et biotechnologie appliquée" has prerequisite(s) WFARM1221S ET WSBIM1226 ET WSBIM1227 ET WMDS1230 ET WFARM1282
- WFARM1221S - [Biochemistry and molecular biology](#)
 - WSBIM1226 - [Molecular biology \(including epigenetics\) and tutorials](#)
 - WSBIM1227 - [Molecular biology and integrated biochemistry](#)
 - WMDS1230 - [Biologie cellulaire médicale et expérimentale](#)
 - WFARM1282 - [General microbiology](#)
- WSBIM1393** "Stage d'immersion" has prerequisite(s) WFARM1213S ET WFARM1221S ET WSBIM1226 ET WSBIM1227 ET WMDS1230 ET WSBIM1293 ET WSBIM1201T ET WSBIM1201P
- WFARM1213S - [Human physiology and basics of physiopathology - \(Partim SBIM\)](#)
 - WFARM1221S - [Biochemistry and molecular biology](#)
 - WSBIM1226 - [Molecular biology \(including epigenetics\) and tutorials](#)
 - WSBIM1227 - [Molecular biology and integrated biochemistry](#)
 - WMDS1230 - [Biologie cellulaire médicale et expérimentale](#)
 - WSBIM1293 - [Training course in cell biology](#)
 - WSBIM1201T - [General physiology - General physiology \(theory part, 40h\)](#)
 - WSBIM1201P - [General physiology - General physiology \(practical part, 25h\)](#)

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.

○ LANGL1855	Medical English 🇬🇧	Timothy Byrne (coord.) Aurélie Deneumoustier Carlo Lefevre (coord.)	FB [q1 or q2] [30h] [3 Credits] 🌐
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⚡ Additional module in Biomedical Sciences

Programme pour les étudiants qui ont choisit l'approfondissement en sciences biomédicales

○ Deuxième bloc annuel de bachelier

L'étudiant est tenu de suivre les cours suivants :

○ WSBIM1205	Introduction to toxicology 🇬🇧	Lidvine Boland Nathalie Delzenne Vincent Haufroid Perrine Hoet (coord.) François Huaux	FB [q2] [30h] [3 Credits] 🌐
○ WSBIM1211	Methodolgy of cell and molecular biology 🇬🇧	Guido Bommer Jean-François Collet (coord.) Stefan Constantinescu Donatienne Tyteca	FB [q2] [22.5h] [3 Credits] 🌐
○ WSBIM1206			

SBIM1BA - 3RD ANNUAL UNIT

- Mandatory
- ⊗ Optional
- △ Not offered in 2023-2024
- ⊖ Not offered in 2023-2024 but offered the following year
- ⊕ Offered in 2023-2024 but not the following year
- △ ⊕ Not offered in 2023-2024 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 Des atomes, des molécules et des systèmes qui les régissent

○ WPHAR1300	Pharmacology Part 1 ■	Emmanuel Hermans Joseph Lorent	(FR) [q1] [30h] +7.5h [3 Credits] 🌐 > English- friendly
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o De la cellule à l'être humain

○ WSBIM1210	Human embryology ■	Charles De Smet (coord.) Christophe Pierreux	(FR) [q2] [24h] [2 Credits] 🌐
○ WSBIM1204	Histology and pathological anatomy workshop ■	Yves Guiot Christophe Pierreux (coord.) Mieke Van Bockstal	(FR) [q2] [30h] [2 Credits] 🌐
○ WMDS1231	Biochimie humaine pathologique ■	Guido Bommer Jean-François Collet Frédéric Lemaigre (coord.)	(FR) [q2] [30h] [3 Credits] 🌐 > English- friendly
○ WMDS1229	Génétique humaine ■	Miikka Viikkula	(FR) [q2] [20h] [2 Credits] 🌐 > English- friendly
○ WSBIM1334	general immunology ■	Isabelle Leclercq ■ Julian Leprince Sophie Lucas (coord.) Jean-Christophe Renault Benoit Van den34 10.77400general immunology	

WSBIM1335

Introduction to pathophysiology

SBIM1BA - 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](https://uclouvain.be/fr/etudier/inscriptions/examens-admission.html) (https://uclouvain.be/fr/etudier/inscriptions/examens-admission.html) 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):

- 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

- Secrétaire de jury de cycle de bachelier (y compris la première): Christophe Pierreux (<https://uclouvain.be/repertoires/christophe.pierreux>)

Useful Contact(s)

- Personne de contact de la 1re année de bachelier: Fabienne Titeux (<https://uclouvain.be/repertoires/fabienne.titeux>)
- Personne de contact du cycle de bachelier (hors première): Guillaume Arnould (<https://uclouvain.be/repertoires/guillaume.arnould>)
- Président de la commission d'enseignement de l'école de sciences biomédicales: Charles De Smet (<https://uclouvain.be/repertoires/charles.desmet>)
- Conseiller aux études: Laure Dumoutier (<https://uclouvain.be/repertoires/laure.dumoutier>)
- Responsable administrative de la faculté de pharmacie et de sciences biomédicales: Johanne Garny (<https://uclouvain.be/repertoires/johanne.garny>)

