UCLouvain

SBIM2M

2024 - 2025

SBIM2M - Introduction

Introduction

i.e.:

- recognise their errors and correct them;

- quote their sources and avoid plagiarism;

- understand and apply the rules relating to experimentation.

5.c Develop their learning by cultivating scientific curiosity and participate in the dissemination of knowledge based on robust scientific thinking.

5.d Understand the rules of scientific publication.

6. If they choose the Research focus: display command of the specific knowledge base and conduct an original research project in a specialist field of biomedicine

6.a Have a comprehensive understanding of the fundamental principles and concepts of one of the following areas of biomedicine: molecular and cellular pathophysiology, cancerology or neuroscience; understand the diagnostic and therapeutic developments associated with the chosen field.

6.b Understand the constraints on the development of a scientific project, whether it concerns basic or applied research; structure and substantiate a funding application; identify the subject of a patent and be familiar with the submission procedure.

6.c Use the skills acquired during the Master's programme in a new professional environment, whether it is an institution or a company involved in biomedical research.

7. If they choose the Professional focus in nutrition, conduct themselves as experts in forging a link between nutrition and health, able to adopt a solid scientific and critical approach in the various professional environments concerned

7.a Have an in-depth understanding of the fundamental principles and concepts of basic and clinical nutrition and be able to use them to

LIST OF FOCUSES

> Research Focus *[en-prog-2024-sbim2m-wsbim200a]*

Year

PROFESSIONAL FOCUS : HUMAN NUTRITION [30.0]

PROFESSIONAL FOCUS : TOXICOLOGY [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...)

Content:

Cours obligatoires

				Year 1	Year 2
WFARM2139	Pharmacocinetic, genomics and toxicology	Laure Bindels (coord.) Laure Elens Vincent Haufroid	FR [q1] [37.5h] [4 Credits] *> English-friendly*	x	
WMDTR3211	Toxicologie industrielle	Vincent Haufroid	FR [q1] [15h] [2 Credits]	x	
WSBIM2143	Causes and risk factors for cancer	Paméla Baldin Nathalie Delzenne François Huaux Nick van Gastel (coord.)	EN [q1] [15h] [2 Credits] *> French-friendly*	x	
WSBIM2159	Forensic approach: forensic pathology in toxicology	Grégory Schmit (coord.) Jessica Vanhaebost	FR [q1] [30h] [3 Credits]	x	
WSBIM2246	Clinical toxicology	Caroline Dahlqvist Bénédicte Delire Laure Elens (coord.) Antoine Froidure Sophie Gohy Ludovic Gérard Marie-Cécile Nassogne Alexis Wérion	FR [q1] [30h+5h] [3 Credits]	x	
WSBIM2146	Toxicology and research I: BelTox meeting	François Huaux			

Year

Year
1 2

WMDS2223	Secteur oncologie	Martine Berlière

Year
1 2

Démarche diagnostique (6 credits)

WMED2331	Stratégie d'utilisation de l'imagerie médicale et de la biologie clinique	Emmanuel Coche Dana Ioana Dumitriu Latifa Fellah Isabelle Leconte Frédéric Lecouvet

OPTIONS [20.0]

				Year 1	2
⊠ WFARM1375	Drugs and sustainable development *Ce cours ne peut être choisi que par les étudiants inscrits en master 60.*	Nathalie Delzenne (coord.) Raphaël Frédérick Pauline Modrie Anne Spinewine Sandy Tubeuf Françoise Van Bambeke	FR [q2] [10h+20h] [3 Credits]	x	
⊠ LBIR2050A	Challenges of sustainable development and transition *Ce cours ne peut être choisi que par les étudiants inscrits en master 60.*	Valentin Couvreur Nathalie Delzenne Valérie Swaen	FR [q1 or q2] [22.5h] [3 Credits]	x	
⊠ WSBIM2229	Interdisciplinary program in translational medicine *Ce cours ne peut être choisi que par les étudiant inscrits en master 120. Ce programme interuniversitaire est financé par le Fond Baillet Latour. Plus de renseignements sur le site.* *L'intégration de ce cours dans votre PAE sera hors progression. Les crédits acquis n'entreront pas en considération dans l'acquisition des 120 crédits obligatoires pour l'obtention de votre diplôme de master.*		FR [q2] [50h] [5 Credits]		x

Year
1 2

OPTION NUTRITION HUMAINE [20.0]

- Mandatory
- Optional
- Not offered in 2024-2025
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- Activity with requisites
- Open to incoming exchange students
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- [FR] Teaching language (FR, EN, ES, NL, DE, ...)

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

OPTION TOXICOLOGIE [20.0]

- O Mandatory
- ⊠ Optional
- △ Not offered in 2024-2025

				Year 1	2
⛒ LBIR2050A	Challenges of sustainable development and transition *Ce cours ne peut être choisi que par les étudiants inscrits en master 60.*	Valentin Couvreur Nathalie Delzenne Valérie Swaen	FR [q1 or q2] [22.5h] [3 Credits]	x	

Stage obligatoire au choix (10 credits)

L'étudiant inscrit au Master 120 choisit un stage parmi les trois suivants. L'étudiant inscrit au Master 60 remplace ces activités de l'option par tout autre cours proposé dans les finalités et les options de master en sciences biomédicales.

⛒ WSBIM2271	International research internship	Pascal Kienlen-Campard (coord.)	EN [q2] [] [10 Credits]		x
⛒ WSBIM2272	Work placement	Anabelle Decottignies (coord.)	EN [q2] [] [10 Credits]		x
⛒ WSBIM2273	Research placement				

Supplementary classes

To access this Master, students must have a good command of certain subjects. If this is not the case, in the first annual block of their Masters programme, students must take supplementary classes chosen by the faculty to satisfy course prerequisites.

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

Finalités

-

L'étudiant souhaitant intégrer la finalité approfondie sera invité à suivre le module complémentaire constitué des unités d'enseignement suivantes:

Cours de base

WFARM1221S	Biochemistry and molecular biology	Nathalie Delzenne (coord.)	FR [q1] [50h+10h] [6 Credits]
WFARM1213	Human physiology and basics of physiopathology	Olivier Feron (coord.) Emmanuel Hermans Jean-Christophe Jonas (compensates Mandy Grootaert)	FR [q2] [60h] [6 Credits] *> English-friendly*
WMDS1230	Biologie cellulaire médicale et expérimentale	Stefan Constantinescu (coord.) Christophe Pierreux Donatienne Tyteca	FR [q1] [30h+20h] [4 Credits]
LANGL2454	English for biomedical students	Nicholas Gibbs Nevin Serbest (coord.)	EN [q2] [30h] [3 Credits]
WSBIM1334	general immunology	Isabelle Leclercq Sophie Lucas (coord.) Jean-Christophe Renauld Rémy Ruelle Benoit Van den Eynde Nathalie Vigneron (compensates Sophie Lucas)	FR [q1] [65h] [6 Credits] *> English-friendly*
WMD1006	Cytology and general histology	Christophe Pierreux	FR [q2] [10h+40h] [5 Credits]
WFARM1282	General microbiology	Thomas Michiels	FR [q1] [20h+15h] [3 Credits]
WSBIM1226	Molecular biology (including epigenetics) and tutorials	Charles De Smet Frédéric Lemaigre Thomas Michiels (coord.)	FR [q1] [30h+10h] [3 Credits]
WSBIM1320	Introduction to experimental approaches in cellular and molecular biology	Luc Bertrand Anne des Rieux Sandrine Horman Donatienne Tyteca (coord.)	FR [q2] [30h] [3 Credits]
WSBIM1302	Molecular Virology	Thomas Michiels	FR [q1] [25h] [3 Credits]
WSBIM1382	Genetics and applied biotechnology	Luc Bertrand (coord.) Laure Dumoutier Géraldine Laloux Nisha Limaye	FR [q1] [30h] [3 Credits] *> English-friendly*

WSBIM1211	Methodolgy of cell and molecular biology

⊠ WESP2123	Principles of clinical trials	Diego Castanares Zapatero Annie Robert (coord.) Xavier Stephenne (compensates Françoise Smets)	FR [q1] [20h+10h] [4 Credits]
⊠ WSBIM1211	Methodolgy of cell and molecular biology	Guido Bommer Jean-François Collet (coord.) Stefan Constantinescu Donatienne Tyteca	FR [q2] [22.5h] [3 Credits]
⊠ WSBIM1323	Systemic neuroscience	Philippe Gailly Pascal Kienlen-Campard Marcus Missal (coord.)	FR [q1] [30h] [3 Credits]
⊠ WSBIM1302	Molecular Virology	Thomas Michiels	FR [q1] [25h] [3 Credits]
⊠ WSBIM1382	Genetics and applied biotechnology	Luc Bertrand (coord.) Laure Dumoutier Géraldine Laloux Nisha Limaye	FR [q1] [30h] [3 Credits] *> English-friendly*

Cours au choix

L'étudiant est invité à choisir 3 unités d'enseignement parmi la liste proposée ci-dessous

⊠ WFARM1221S	⊠ WSBIM1302	Molecular Virology	Thomas Michiels	FR [q1] [25h] [3 Credits]
	⊠ WSBIM1382	Genetics and applied biotechnology	Luc Bertrand (coord.) Laure Dumoutier Géraldine Laloux Nisha Limaye	FR [q1] [30h] [3 Credits] *> English-friendly*
	⊠ SBIM1211	Methodolgy of cell and molecular biology	Guido Bommer Jean-François Collet (coord.) Stefan Constantinescu Donatienne Tyteca	FR [q2] [22.5h] [3 Credits] *> English-friendly*
		Systemic neuroscienc	Philippe Gailly Pascal Kienlen-Campard Marcus Missal (coord.)	FR [q1] [30h] [3 Credits]
		ction to human nutriti	Véronique Beauloye Patrice Cani Nathalie Delzenne (coord.) Matthias Van Hul (compensates) Françoise Smets)	FR [q1] [30h] [3 Credits]
		appliquée aux cales	Séverine Henrard	FR [q2] [20h] [3 Credits] *> English-friendly*
			Lidvine Boland Nathalie Delzenne Laure Elens Vincent Haufroid François Huaux iolaine Verougstraete Alexis Wérion	FR [q2] [30h] [3 Credits]

ivre le module complémentaire constitué des

○ WSBIM1320	Introduction to experimental approaches in cellular and molecular biology	Luc Bertrand Anne des Rieux Sandrine Horman Donatienne Tyteca (coord.)	FR [q2] [30h] [3 Credits]
○ WSBIM1205	Introduction to toxicology	Lidvine Boland Nathalie Delzenne Laure Elens Vincent Haufroid François Huaux Violaine Verougstraete Alexis Wérion	FR [q2] [30h] [3 Credits]
○ WFARM1305	Elements of General Pathology	Mélanie Dechamps Olivier Feron (coord.)	FR [q2] [30h] [3 Credits] *> English-friendly*
○ WSBIM1302	Molecular Virology	Thomas Michiels	EN [q1] [25h] [3 Credits]
○ WMDS1237D	Pharmacologie générale (partim sciences dentaires)	Emmanuel Hermans (coord.)	EN [q1] [20h] [2 Credits]

○ Cours au choix

L'étudiant est invité à choisir 1 unité d'enseignement parmi la liste proposée ci-dessous.

⊠ WESP2234	Clinical decision making	Andrea Penaloza-Baeza Annie Robert (coord.) Kiswendsida Clovis Sawadogo	EN [q1] [30h] [3 Credits]
⊠ WSBIM1211	Methodolgy of cell and molecular biology		

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 puposes 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.

Prerequisities list

WSBIM2237 "Nutrition et environnement : aspect sociétal" has prerequisite(s) WSBIM2181 ET WSBIM2134 ET WSBIM2136 ET WSBIM2137 ET WSBIM2138

- WSBIM2181 - Molecular and cellular aspects of nutrition
- WSBIM2134 - Pathophysiology of nutrition
- WSBIM2136 - Clinical nutrition
- WSBIM2137 - Nutrition and environment: biological and toxicological aspects
- WSBIM2138 - Innovation and research in nutrition

WSBIM2238 "Nutrition spécialisée" has prerequisite(s) WSBIM2181 ET WSBIM2134 ET WSBIM2136 ET WSBIM2137 ET WSBIM2138

- WSBIM2181 - Molecular and cellular aspects of nutrition
- WSBIM2134 - Pathophysiology of nutrition
- WSBIM2136 - Clinical nutrition
- WSBIM2137 - Nutrition and environment: biological and toxicological aspects
- WSBIM2138 - Innovation and research in nutrition

WSBIM2239 "Nutrition et santé publique" has prerequisite(s) WSBIM2181 ET WSBIM2134 ET WSBIM2136 ET WSBIM2137 ET WSBIM2138

- WSBIM2181 - Molecular and cellular aspects of nutrition
- WSBIM2134 - Pathophysiology of nutrition
- WSBIM2136 - Clinical nutrition
- WSBIM2137 - Nutrition and environment: biological and toxicological aspects
- WSBIM2138 - Innovation and research in nutrition

WSBIM2244 "Special issues in cancerology" has prerequisite(s) WSBIM2280 ET (WSBIM2112 OU WSBIM2151) ET WSBIM2141 ET WSBIM2142 ET WSBIM2143 ET WSBIM2144

- WSBIM2280 - Scientific communication workshop
- WSBIM2112

- WSBIM2112 - Cell and molecular biology: experimental systems
- WSBIM2151 - Experimental approaches in neuroscience
- WSBIM2154 - Neuroanatomy and anatomo-functional imaging techniques
- WSBIM2155 - Developmental neurobiology
- WSBIM2156 - Animal and human electrophysiology project

WSBIM2255 "Seminar on neurological and psychiatric disease" has prerequisite(s) WSBIM2280 ET (WSBIM2112 OU WSBIM2151) ET WSBIM2154 ET WSBIM2155 ET WSBIM2156

- WSBIM2280 - Scientific communication workshop
- WSBIM2112 - Cell and molecular biology: experimental systems
- WSBIM2151 - Experimental approaches in neuroscience
- WSBIM2154 - Neuroanatomy and anatomo-functional imaging techniques
- WSBIM2155 - Developmental neurobiology
- WSBIM2156 - Animal and human electrophysiology project

WSBIM2271 "International research internship" has prerequisite(s) WSBIM2198 ET WSBIM2197

- WSBIM2198 - Pre-thesis in biomedical sciences
- WSBIM2197 - Laboratory internship (part 1)

WSBIM2272 "Work placement" has prerequisite(s) WSBIM2198 ET WSBIM2197

- WSBIM2198 - Pre-thesis in biomedical sciences
- WSBIM2197 - Laboratory internship (part 1)

WSBIM2273 "Research placement" has prerequisite(s) WSBIM2198 ET WSBIM2197

- WSBIM2198 - Pre-thesis in biomedical sciences
- WSBIM2197 - Laboratory internship (part 1)

WSBIM2284 "Cellular and molecular pathophysiology of human diseases (Part 2)" has prerequisite(s) WSBIM2280 ET (WSBIM2112 OU WSBIM2151)

- WSBIM2280 - Scientific communication workshop
- WSBIM2112 - Cell and molecular biology: experimental systems
- WSBIM2151 - Experimental approaches in neuroscience

WSBIM2285 "Biomedical project design, Pathophysiology" has prerequisite(s) WSBIM2280 ET (WSBIM2112 OU WSBIM2151)

- WSBIM2280 - Scientific communication workshop
- WSBIM2112 - Cell and molecular biology: experimental systems
- WSBIM2151 - Experimental approaches in neuroscience

WSBIM2297 "Stage en laboratoire (2e partie)" has prerequisite(s) WSBIM2197

- WSBIM2197 - Laboratory internship (part 1)

WSBIM2298 "Mémoire expérimental en sciences biomédicales" has prerequisite(s) WSBIM2198

- WSBIM2198 - Pre-thesis in biomedical sciences

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.

SBIM2M - Information

Access Requirements

Master course admission requirements are defined by the French Community of Belgium Decree of 7 November 2013 defining the higher education landscape and the academic organisation of courses.

General and specific admission requirements for this programme must be satisfied at the time of enrolling at the university.

Unless explicitly mentioned, the bachelor's, master's and licentiate degrees listed in this table or 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

Specific access requirements

Les candidats étudiants non francophones (UE et hors UE) 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)

University Bachelors

Diploma	Special Requirements	Access	Remarks
UCLouvain Bachelors			
Bachelor in Biomedicine		Direct access	
Bachelor in Dentistry Bachelor in Medecine Bachelor in Pharmacy		Access with additional training	Additional requirements for admission de max 15 crédits intégrés dans le programme du master
Bachelor in Veterinary Medicine Bachelor in Chemistry Bachelor in Physics Bachelor in Bioengineering		Access based on application	Additional requirements for admission de max 60 crédits intégrés dans le programme du master
Others Bachelors of the French speaking Community of Belgium			
bachelier en sciences biomédicales		Direct access	
bachelier en médecine sciences pharmaceutiques sciences dentaires		Access with additional training	Additional requirements for admission de max 15 crédits intégrés dans le programme du master
bachelier en médecine vétérinaire bachelier en sciences chimiques bachelier en sciences de l'ingénieur orientation bioingénieur bachelier en sciences physiques		Access based on application	Additional requirements for admission de max 60 crédits intégrés dans le programme du master
Bachelors of the Dutch speaking Community of Belgium			
bachelier en sciences biomédicales		Direct access	
bachelier en médecine sciences pharmaceutiques sciences dentaires		Access with additional training	Additional requirements for admission de max 15 crédits

		intégrés dans le programme du master
bachelier en médecine vétérinaire bachelier en sciences chimiques bachelier en sciences de l'ingénieur orientation bioingénieur bachelier en sciences physiques	Access based on application	Additional requirements for admission de max 60 crédits intégrés dans le programme du master
Foreign Bachelors		
diplôme universitaire jugé équivalent dans des domaines autres que ceux repris ci-dessus ou ayant acquis une expérience pouvant être valorisée dans le domaine des sciences biomédicales	Access based on application	Accès en bachelier. Programme établi par le jury d'admission sur base du parcours antérieur de minimum 60 crédits.

Non university Bachelors

> Find out more about links to the university

Diploma	Access	Remarks
BA - sage-femme - crédits supplémentaires entre 15 et 30 BA - technologue de laboratoire médical - crédits supplémentaires entre 30 et 60 BA - technologue en imagerie médicale - crédits supplémentaires entre 30 et 60 BA de spécialisation en anesthésie - crédits supplémentaires entre 15 et 30 BA de spécialisation en soins intensifs et aide médicale urgente - crédits supplémentaires entre 15 et 30 BA en chimie, orientation biochimie - crédits supplémentaires entre 30 et 60 BA en chimie, orientation biotechnologie - crédits supplémentaires entre 30 et 60 BA en chimie, orientation chimie appliquée - crédits supplémentaires entre 30 et 60 BA en chimie, orientation environnement - crédits supplémentaires entre 30 et 60 BA en diététique - crédits supplémentaires entre 30 et 60 BA en ergothérapie - crédits supplémentaires entre 30 et 60		

Teaching method

Throughout the Master's programme, students encounter a variety of complementary teaching methods: classroom lectures, tutoring, laboratory work and immersion in a professional environment.

The course programme is designed to enable an excellent level of training in research through experimentation.

The theory teaching, monitoring in the laboratory and supervision of the thesis are performed by research professionals.

Professional focus in human nutrition: the programme is organised so as to leave a period of time almost exclusively devoted to the production of a laboratory experiment dissertation, which is essential to enable the learner to become an integral part of a team and to allow adequate monitoring by the supervisors.

The final stage of the programme includes an introductory work placement, intended to enable the students to face the world of employment that they will have to deal with on completion of the training; the various courses will also provide the opportunity for contact with key representatives of the world of employment during the training.

The critical mindset will be developed in the field, which is necessary in view of the amount of misleading information found on the Internet or through inadequate communication networks in the field of nutrition and health; this competence will be acquired by being faced with real-life cases to be dealt with in several courses.

Evaluation

The evaluation methods comply with the regulations concerning studies and exams. More detailed explanation of the

Entity

Structure entity	SSS/FASB/SBIM
Denomination	(SBIM)
Faculty	Faculty of Pharmacy and Biomedical Sciences (FASB)
Sector	Health Sciences (SSS)
Acronym	SBIM
Postal address	Avenue Mounier 73 - bte B1.73.04 1200 Woluwe-Saint-Lambert Tel: +32 (0)2 764 73 62 - Fax: +32 (0)2 764 73 63

Academic supervisor: Charles De Smet

Jury

- Président de jury: Charles De Smet
- Secrétaire du jury: