

**At Bruxelles Woluwe - 60 credits - 1 year - Day schedule - In French**Dissertation/Graduation Project : **YES** - Internship : **optional**Activities in English: **YES** - 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: **SBIM2M1** - Francophone Certification Framework: 7**Table of contents**

|                                                      |    |
|------------------------------------------------------|----|
| Introduction .....                                   | 2  |
| Teaching profile .....                               | 3  |
| Learning outcomes .....                              | 3  |
| Programme structure .....                            | 3  |
| Programme .....                                      | 4  |
| Detailed programme by subject .....                  | 4  |
| Supplementary classes .....                          | 13 |
| The programme's courses and learning outcomes .....  | 15 |
| Information .....                                    | 16 |
| Access Requirements .....                            | 16 |
| Teaching method .....                                | 18 |
| Evaluation .....                                     | 18 |
| Mobility and/or Internationalisation outlook .....   | 18 |
| Possible trainings at the end of the programme ..... | 18 |
| Contacts .....                                       | 18 |

## SBIM2M1 - Introduction

### Introduction

---

## SBIM2M1 - Teaching profile

### Learning outcomes

---

The programme of the 60 credit Master is open to any students who wish to undergo additional training in biomedical sciences without having to do the two years of the full Master.

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

1 Use integrated and evolving knowledge in biomedical sciences

1.a Use general knowledge and methodologies in experimental biomedical sciences: normal and pathological biochemistry and molecular biology, cell biology, general and special histology, general anatomy, general and special physiology.

1.b Understand and criticize the experimental approaches and observation methods that led to this knowledge.

1.c Master the modern sources of knowledge and be able to effectively search for new and specific information, and criticize it.

2

Analyze, criticize, and propose perspectives of experiments in biomedical sciences

2.a

Analyze the observations in a rigorous and critical way:

Ea:

- develop analogical and deductive reasoning;

- establish links of correlation and causality;

- track down and correct logic errors.

2.b

Interpret and represent experimental results through mathematical modeling, graphical representations, reasoning and statistical tools:

Ea:

- exploit the dispersion of continuous variables as a source of information.

2.c Exploit the results of biological or clinical analyzes recorded in databases.

2.d Demonstrate creativity, recognizing failures and seeking the cause; recognizing unexpected observations and identifying their interest; by reformulating initial hypotheses, by elaborating new hypotheses.

3

Communicate both orally and in writing

3.a Enrich his vocabulary in biomedical sciences and use it accurately and nuanced in French and scientific English.

3.b

Write, in French and in English, scientific reports based on the standards of scientific publication in the biomedical sciences:

Ea:

- to argue the relevance of the experimental procedures and the proposed conclusions;

- to compare the data with those of comparable studies published in the scientific literature;

- to identify possible divergences between different studies, to propose the possible causes.

3.c Present oral communication in accordance with scientific standards in the biomedical sciences.

4 Be a professional researcher to start a scientific career

4.a Be a professional researcher to start a scientific career

4.b

Practice scientific integrity:

Ea:

- consider all available data, including those that do not support the advanced hypothesis;

- cite his sources and ban plagiarism.

4.c Develop scientific curiosity and participate in the dissemination of knowledge built on rigorous scientific data

### Programme structure

---

The contents of the programme are determined according to the background and the project of each student.

It is made up of :

- 15 credits devoted to the dissertation,

- 17 credits of basic biomedical sciences,

- 2 credits for religious,
- 20 credits for option courses,
- 6 credits for optional subjects.

## SBIM2M1 Programme

### Detailed programme by subject

#### CORE COURSES [40.0]

- 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 Mémoire (17 credits)

|             |                                                   |                          |                                                   |
|-------------|---------------------------------------------------|--------------------------|---------------------------------------------------|
| ● WSBIM2061 | Biomedical sciences dissertation support seminar  | Charles De Smet          | FR [q2] [12h] [2 Credits] 🌐<br>> English-friendly |
| ● WSBIM2060 | Bibliographic dissertation in biomedical sciences | Charles De Smet (coord.) | FR [] [] [15 Credits] 🌐<br>> English-friendly     |

#### o Formation aux sciences de base en sciences biomédicales (13 credits)

|             |                                            |                                                                                                                                  |                                                       |
|-------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| ● WSBIM2114 | Analysis of gene expression and function   | Jean Baptiste Demoulin<br>Emmanuel Hermans<br>Frédéric Lemaigre (coord.)<br>Nisha Limaye<br>Thomas Michiels<br>Donatienne Tyteca | EN [q1] [39h] [4 Credits] 🌐                           |
| ● WSBIM2115 | Protein structure / Function relationships | Luc Bertrand<br>Guido Bommer (coord.)<br>Jean-François Collet<br>Géraldine Laloux                                                | EN [q1] [30h] [3 Credits] 🌐                           |
| ● WSBIM2280 | Scientific communication workshop          | Luc Bertrand<br>Cyril Corbet<br>Charles De Smet (coord.)<br>Wen-Hui Lien<br>Nisha Limaye                                         | EN [q1] [30h] [3 Credits] 🌐                           |
| ● WFARM2104 | GOOD MANUFACTURING AND QUALITY             | Joëlle Leclercq (coord.)<br>Thierry Pronce                                                                                       | FR [q2] [30h+15h] [3 Credits] 🌐<br>> English-friendly |

#### o Sciences religieuses (2 credits)

L'étudiant choisit un cours parmi les suivants :

|             |                                                                    |                     |                             |
|-------------|--------------------------------------------------------------------|---------------------|-----------------------------|
| ⌘ LTECO2101 | Questions of religious sciences: biblical readings                 | Claude Lichtert     | FR [q1] [15h] [2 Credits] 🌐 |
| ⌘ LTECO2102 | Questions of religious sciences: reflections about christian faith | Arnaud Join-Lambert | FR [q1] [15h] [2 Credits] 🌐 |
| ⌘ LTECO2103 | Questions of religious sciences: questions about ethics            | Eric Gaziaux        | FR [q1] [15h] [2 Credits] 🌐 |

**o Cours au choix (8 credits)**

*L'étudiant choisit 8 crédits de cours dans l'ensemble du programme de Master 120 en sciences biomédicales, y compris (éventuellement) les activités de stage en entreprise, en concertation avec les responsables de programme et le promoteur du mémoire.*

---

**OPTIONS**

- > Option pathophysiologie cellulaire et moléculaire [ en-prog-2023-sbim2m1-wsbim904o ]
- > Option neurosciences [ en-prog-2023-sbim2m1-wsbim907o ]
- > Option cancérologie [ en-prog-2023-sbim2m1-wsbim908o ]
- > Option toxicologie [ en-prog-2023-sbim2m1-wsbim935o ]
- > Option sciences biomédicales cliniques [ en-prog-2023-sbim2m1-wsbim936o ]
- > Option nutrition humaine [ en-prog-2023-sbim2m1-wsbim937o ]

**OPTION PATHOPHYSIOLOGIE CELLULAIRE ET MOLÉCULAIRE [20.0]**

- 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...)

**Content:****⌘ Programme des étudiants inscrits en master 60**

L'étudiant suit les cours suivants :

|              |                                                                                              |                                                                                                                                                                       |                                                       |
|--------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| ○ WSBIM2215  | Post-translational regulation of proteins                                                    | Luc Bertrand (coord.)<br>Guido Bommer<br>Jean-François Collet<br>Jean Baptiste Demoulin                                                                               | EN [q1] [20h] [2 Credits] 🌐<br>> English-friendly     |
| ○ WSBIM2141P | Intercellular signaling and tumor biology - Intercellular signaling and tumor biology (part) | Frédéric Lemaigre (coord.)                                                                                                                                            | EN [q1] [20h] [2 Credits] 🌐<br>> English-friendly     |
| ○ WSBIM2184  | Cellular and molecular pathophysiology of human diseases (Part 1)                            | Olivier Feron<br>Jean-Christophe Jonas (coord.)<br>Shakeel Kautbally<br>Pascal Kienlen-Campard<br>Charles Pilette                                                     | EN [q1] [30h] [3 Credits] 🌐                           |
| ○ WSBIM2285  | Biomedical project design, Pathophysiology                                                   | Frédéric Lemaigre                                                                                                                                                     | EN [q2] [30h] [4 Credits] 🌐                           |
| ○ WSBIM2284  | Cellular and molecular pathophysiology of human diseases (Part 2)                            | Christiani Andrade Amorim<br>Luc Bertrand<br>Cyril Corbet<br>Chantal Dessy<br>Laure Dumoutier<br>Patrick Henriët<br>Sandrine Horman<br>Jean-Christophe Jonas (coord.) | EN [q2] [10h+20h] [3 Credits] 🌐                       |
| ○ WSBIM2216  | Inflammatory and autoimmune diseases and cancer: immunological aspects                       | Laure Dumoutier (coord.)<br>Sophie Lucas<br>Pierre van der Bruggen<br>Nathalie Vigneron (compensates Jean-Christophe Renauld)                                         | EN [q1] [20h+10h] [3 Credits] 🌐<br>> English-friendly |
| ○ WFARM2149  | Pharmaceutical approach in nutrition                                                         | Nathalie Delzenne                                                                                                                                                     | EN [q2] [30h+15h] [3 Credits] 🌐<br>> English-friendly |

**⌘ Programme des étudiants inscrits en master 120****○ Cours obligatoires**

|             |                                            |                   |                             |
|-------------|--------------------------------------------|-------------------|-----------------------------|
| ○ WSBIM2285 | Biomedical project design, Pathophysiology | Frédéric Lemaigre | EN [q2] [30h] [4 Credits] 🌐 |
|-------------|--------------------------------------------|-------------------|-----------------------------|

|             |                                                                   |                                                                                                                                                                                                                                          |                                 |
|-------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| ○ WSBIM2284 | Cellular and molecular pathophysiology of human diseases (Part 2) | Christiani<br>Andrade Amorim<br>Luc Bertrand<br>Cyril Corbet<br>Chantal Dessy<br>Laure Dumoutier<br>Patrick Henriet<br>Sandrine Horman<br>Jean-Christophe<br>Jonas (coord.)                                                              | EN [q2] [10h+20h] [3 Credits] 🌐 |
| ○ WSBIM2218 | Special issues in molecular and cellular pathophysiology          | Christiani<br>Andrade Amorim<br>Luc Bertrand<br>Cyril Corbet<br>Chantal Dessy<br>Laure Dumoutier<br>Antoine Froidure<br>Bernard Hanseeuw<br>Patrick Henriet<br>Sandrine Horman<br>Jean-Christophe<br>Jonas (coord.)<br>Shakeel Kautbally | EN [q2] [30h] [3 Credits] 🌐     |

### ○ Cours au choix

L'étudiant choisit 10 crédits parmi les unités d'enseignement ci-dessous.

|              |                                                                                                                                                                                          |                                                                                                                                     |                                                       |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| ⊗ WSBIM2215  | Post-translational regulation of proteins                                                                                                                                                | Luc Bertrand (coord.)<br>Guido Bommer<br>Jean-François Collet<br>Jean Baptiste Demoulin                                             | EN [q1] [20h] [2 Credits] 🌐<br>> English-friendly     |
| ⊗ WSBIM2141P | Intercellular signaling and tumor biology - Intercellular signaling and tumor biology (part)                                                                                             | Frédéric<br>Lemaigre (coord.)                                                                                                       | EN [q1] [20h] [2 Credits] 🌐<br>> English-friendly     |
| ⊗ WSBIM2181  | Molecular and cellular aspects of nutrition                                                                                                                                              | Luc Bertrand<br>Patrice Cani (coord.)<br>Patrick Gilon<br>Nicolas Lanthier<br>Maria Veiga da Cunha                                  | EN [q1] [30h] [4 Credits] 🌐                           |
| ⊗ WSBIM2184  | Cellular and molecular pathophysiology of human diseases (Part 1)                                                                                                                        | Olivier Feron<br>Jean-Christophe<br>Jonas (coord.)<br>Shakeel Kautbally<br>Pascal Kienlen-Campard<br>Charles Pilette                | EN [q1] [30h] [3 Credits] 🌐                           |
| ⊗ WSBIM2216  | Inflammatory and autoimmune diseases and cancer: immunological aspects                                                                                                                   | Laure Dumoutier<br>(coord.)<br>Sophie Lucas<br>Pierre van der Bruggen<br>Nathalie Vigneron<br>(compensates Jean-Christophe Renauld) | EN [q1] [20h+10h] [3 Credits] 🌐<br>> English-friendly |
| ⊗ WSBIM2229  | Interdisciplinary program in translational medicine<br><i>Ce programme interuniversitaire est financé par le Fond Baillet Latour. Plus de renseignements sur le <a href="#">site</a></i> |                                                                                                                                     | EN [q2] [50h] [5 Credits] 🌐                           |

**OPTION NEUROSCIENCES [20.0]**

- 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 Content:**

|             |                                                                                                                                                                                                                                                 |                                                                                                               |                                 |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------|
| ○ WSBIM2154 | <a href="#">Neuroanatomy and anatomo-functional imaging techniques</a>                                                                                                                                                                          | Aleksandar Jankovski (coord.)<br>John Lee                                                                     | FR [q1] [30h] [4 Credits] 🌐     |
| ○ WSBIM2155 | <a href="#">Developmental neurobiology</a>                                                                                                                                                                                                      | Fadel Tissir                                                                                                  | FR [q1] [30h] [4 Credits] 🌐     |
| ○ WSBIM2156 | <a href="#">Animal and human electrophysiology project</a>                                                                                                                                                                                      | Philippe Gailly (coord.)<br>Marcus Missal<br>André Mouraux                                                    | FR [q1] [20h] [2 Credits] 🌐     |
| ○ WSBIM2251 | <a href="#">Neural networks and Deep Learning</a>                                                                                                                                                                                               | John Lee<br>Marcus Missal (coord.)                                                                            | FR [q2] [20h+10h] [3 Credits] 🌐 |
| ○ WSBIM2253 | <a href="#">Advanced issues in cognitive neuroscience</a>                                                                                                                                                                                       | Julie Duque<br>Valéry Legrain<br>Marcus Missal (coord.)                                                       | EN [q2] [30h+10h] [4 Credits] 🌐 |
| ○ WSBIM2255 | <a href="#">Seminar on neurological and psychiatric disease</a>                                                                                                                                                                                 | Philippe de Timary<br>Riëm El Tahry<br>Bernard Hanseeuw<br>Emmanuel Hermans (coord.)<br>Marie-Cécile Nassogne | EN [q2] [30h] [3 Credits] 🌐     |
| ⊗ WSBIM2229 | <a href="#">Interdisciplinary program in translational medicine</a><br><i>Ce cours est au choix pour l'étudiant. Ce programme interuniversitaire est financé par le Fond Baillet Latour. Plus de renseignements sur le <a href="#">site</a></i> |                                                                                                               | FR [q2] [50h] [5 Credits] 🌐     |



**OPTION CANCÉROLOGIE [20.0]**

- 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 Content:**

|             |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                   |                                                   |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| ○ WSBIM2141 | <a href="#">Intercellular signaling and tumor biology</a>                                                                                                                                                                                       | Stefan Constantinescu<br>Anabelle Decottignies<br>Olivier Feron<br>Frédéric Lemaigre (coord.)<br>Pierre Sonveaux                                                                                  | FR [q1] [30h] [3 Credits] 🌐<br>> English-friendly |
| ○ WSBIM2142 | <a href="#">Tumor genetics and epigenetics</a>                                                                                                                                                                                                  | Charles De Smet<br>Jean Baptiste Demoulin (coord.)<br>Violaine Havelange                                                                                                                          | FR [q1] [20h] [2 Credits] 🌐<br>> English-friendly |
| ○ WSBIM2143 | <a href="#">Causes and risk factors for cancer</a><br><i>L'étudiant de la finalité toxicologie doit choisir un autre cours pour une valeur de 2 crédits.</i>                                                                                    | Paméla Baldin<br>Nathalie Delzenne<br>François Huaux<br>Nick van Gastel (coord.)                                                                                                                  | FR [q1] [15h] [2 Credits] 🌐<br>> French-friendly  |
| ○ WSBIM2144 | <a href="#">Cancer diagnosis and therapy</a>                                                                                                                                                                                                    | Jean-François Baurain<br>Bernard Gallez<br>Vincent Grégoire<br>Violaine Havelange<br>Frédéric Lecouvet<br>Sophie Lucas (coord.)<br>Etienne Marbaix                                                | FR [q1] [30h] [3 Credits] 🌐<br>> English-friendly |
| ○ WSBIM2244 | <a href="#">Special issues in cancerology</a>                                                                                                                                                                                                   | Jean-François Baurain<br>Laure Bindels<br>Charles De Smet (coord.)<br>Jean Baptiste Demoulin<br>Olivier Feron<br>Bernard Gallez<br>Etienne Marbaix<br>Pierre Sonveaux<br>Nick van Gastel          | FR [q2] [50h] [5 Credits] 🌐                       |
| ○ WSBIM2245 | <a href="#">In-session seminar in biomedicine</a>                                                                                                                                                                                               | Jean-François Baurain<br>Laure Bindels<br>Charles De Smet (coord.)<br>Jean Baptiste Demoulin (coord.)<br>Olivier Feron<br>Bernard Gallez<br>Etienne Marbaix<br>Pierre Sonveaux<br>Nick van Gastel | FR [q2] [50h] [5 Credits] 🌐                       |
| ⊗ WSBIM2229 | <a href="#">Interdisciplinary program in translational medicine</a><br><i>Ce cours est au choix pour l'étudiant. Ce programme interuniversitaire est financé par le Fond Baillet Latour. Plus de renseignements sur le <a href="#">site</a></i> |                                                                                                                                                                                                   | FR [q2] [50h] [5 Credits] 🌐                       |

**OPTION TOXICOLOGIE [20.0]**

- 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 Content:****o Cours obligatoires**

|              |                                                                     |                        |                               |
|--------------|---------------------------------------------------------------------|------------------------|-------------------------------|
| ● WSBIM2290  | Introduction to laboratory animal science                           | Jean-Paul Dehoux       | FR [q1] [37h] [3 Credits] 🌐   |
| ● WMDTR3201S | Facteurs de risques chimiques en milieu professionnel (partim SBIM) |                        | FR [q1] [15h] [2 Credits] 🌐   |
| ● WMDTR3212  | Aspects réglementaires en toxicologie                               | Violaine Verougstraete | FR [q2] [22.5h] [2 Credits] 🌐 |

**o Cours au choix**

L'étudiant choisit minimum 3 crédits parmi les cours suivants.

|              |                                                                                                                       |                                                                                                                                                                                                                               |                                                       |
|--------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| ⊗ WFARM1300M | Pharmacokinetics and metabolism of xenobiotics - Pharmacokinetics and metabolism of xenobiotics (metabolism part 15h) | Nathalie Delzenne<br>Laure Elens                                                                                                                                                                                              | FR [q1] [10h+20h] [2 Credits] 🌐<br>> English-friendly |
| ⊗ WFARM1303  | Clinical Chemistry                                                                                                    | Joseph Dewulf<br>Catherine Fillee<br>Damien Gruson<br>Vincent Haufroid (coord.)<br>Madeleine Rousseaux                                                                                                                        | FR [q2] [20h] [2 Credits] 🌐                           |
| ⊗ WFARM2180  | Organotoxicity : molecular, cellular and functional aspects                                                           | Olivier Feron (coord.)<br>Philippe Lysy<br>Xavier Wittebole                                                                                                                                                                   | FR [q2] [30h+15h] [3 Credits] 🌐<br>> English-friendly |
| ⊗ WFARM2514  | Drug dependence and addiction                                                                                         | Lidvine Boland (compensates)<br>Laure Bindels<br>Philippe de Timary<br>Sophie Gohy<br>Vincent Haufroid<br>Emmanuel Hermans (coord.)<br>Denis Jacques<br>Didier Lambert<br>Peter Starkel<br>Miikka Vikkula<br>Xavier Wittebole | FR [q2] [22.5h] [3 Credits] 🌐                         |

**o Stage obligatoire au choix (10 credits)**

L'étudiant choisit un stage parmi les 2 suivants.

|             |                                                                                                       |                                |                           |
|-------------|-------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------|
| ⊗ WSBIM2272 | Work placement<br>Cette autre activité ne concerne pas les étudiants inscrits en master 60 (SBIM2M1). | Anabelle Decottignies (coord.) | EN [q2] [] [10 Credits] 🌐 |
| ⊗ WSBIM2273 | Research internship, Part 2                                                                           | Anabelle Decottignies (coord.) | EN [q2] [] [10 Credits] 🌐 |

**OPTION SCIENCES BIOMÉDICALES CLINIQUES [20.0]**

- 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 Content:****o Métabolisme et pathologies particulières**

|              |                                                                                                                                     |                       |                             |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------|
| ○ WSBIM2246P | <b>Human toxicology</b><br><i>L'étudiant de la finalité toxicologique doit choisir un autre cours pour une valeur de 3 crédits.</i> | Laure Elens (coord.)  | FR [q2] [30h] [4 Credits] 🌐 |
| ○ WSBIM2230  | <b>Biochemistry of inborn errors of metabolism</b>                                                                                  | Marie-Cécile Nassogne | FR [q1] [30h] [3 Credits] 🌐 |

**o Pathologie humaine**

Students from the master 60 who choose this option in Clinical biomedical sciences will be offered two other courses of human pathology in agreement with their program manager

|             |                                               |                                           |                                                       |
|-------------|-----------------------------------------------|-------------------------------------------|-------------------------------------------------------|
| ○ WMDS1330T | <b>Pathologie générale - (partim théorie)</b> |                                           | FR [q2] [36h] [3 Credits] 🌐                           |
| ○ WFARM2104 | <b>GOOD MANUFACTURING AND QUALITY</b>         | Joëlle Leclercq (coord.)<br>Thierry Ponce | FR [q2] [30h+15h] [3 Credits] 🌐<br>> English-friendly |

**o Méthodes pour les études cliniques**

L'étudiant inscrit au master 60 (SBIM2M1) doit choisir un autre cours que LSTAT2330 dans le programme du master pour une valeur de 3 crédits minimum.

|             |                                       |                                                                                           |                                    |
|-------------|---------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------|
| ○ LSTAT2330 | <b>Statistics in clinical trials.</b> | Catherine Legrand<br>Annie Robert                                                         | FR [q2] [22.5h+7.5h] [3 Credits] 🌐 |
| ○ WESP2123  | <b>Principles of clinical trials</b>  | Diego Castanares<br>Zapatero<br>Philippe Lysy<br>Annie Robert (coord.)<br>Françoise Smets | FR [q1] [20h+10h] [4 Credits] 🌐    |

**⊗ Autre activité**

Selon son projet, l'étudiant peut remplacer des activités obligatoires de l'option par un stage en entreprise. Son programme d'année sera adapté en conséquence. Cette autre activité ne concerne pas les étudiants inscrits en master 60 (SBIM2M1).

|             |                       |                                   |                           |
|-------------|-----------------------|-----------------------------------|---------------------------|
| ⊗ WSBIM2272 | <b>Work placement</b> | Anabelle<br>Decottignies (coord.) | FR [q2] [] [10 Credits] 🌐 |
|-------------|-----------------------|-----------------------------------|---------------------------|

**OPTION NUTRITION HUMAINE [20.0]**

- 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 Content:****o Cours au choix**

Pour compléter l'option, l'étudiant choisit des cours pour un nombre de crédits permettant d'atteindre les minimum 20 crédits d'option. Pour les étudiants du master 120, si certains cours que choisit l'étudiant sont offerts dans une finalité spécialisée, le recouvrement, entre les cours de cette option et les cours d'une finalité spécialisée, ne peut excéder 6 crédits.

**o Cours au choix (10 crédits)**

L'étudiant choisit des cours pour atteindre un minimum de 10 crédits, parmi les cours proposés dans la liste ci-dessous, complétés de cours proposés dans tout autre programme d'autres facultés. Ce choix sera validé par la commission d'enseignement de la finalité.

|             |                                             |                       |                                                       |
|-------------|---------------------------------------------|-----------------------|-------------------------------------------------------|
| ⊗ WSBIM2230 | Biochemistry of inborn errors of metabolism | Marie-Cécile Nassogne | FR [q1] [30h] [3 Credits] 🌐                           |
| ⊗ WSBIM2290 | Introduction to laboratory animal science   | Jean-Paul Dehoux      | FR [q1] [37h] [3 Credits] 🌐                           |
| ⊗ WFARM2149 | Pharmaceutical approach in nutrition        | Nathalie Delzenne     | FR [q2] [30h+15h] [3 Credits] 🌐<br>> English-friendly |

**o Stage obligatoire au choix (10 crédits)**

L'étudiant choisit un stage parmi les suivants.

|             |                                                                                                       |                                 |                           |
|-------------|-------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------|
| ⊗ WSBIM2271 | International research internship                                                                     | Pascal Kienlen-Campard (coord.) | EN [q2] [] [10 Credits] 🌐 |
| ⊗ WSBIM2272 | Work placement<br>Cette autre activité ne concerne pas les étudiants inscrits en master 60 (SBIM2M1). | Anabelle Decottignies (coord.)  | EN [q2] [] [10 Credits] 🌐 |
| ⊗ WSBIM2273 | Research internship, Part 2                                                                           | Anabelle Decottignies (coord.)  | EN [q2] [] [10 Credits] 🌐 |

## Supplementary classes

**To access this Master, students must have a good command of certain subjects. If this is not the case, students must take supplementary classes chosen by the faculty to satisfy course prerequisites.**

- 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...)

### From 15 to 60credit(s)

|              |                                                                           |                                                                                                                                                                     |                                                   |
|--------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| ○ WFARM1221S | Biochemistry and molecular biology                                        | Nathalie Delzenne (coord.)                                                                                                                                          | FR [q1] [50h+10h] [6 Credits] 🌐                   |
| ○ WFARM1213  | Human physiology and basics of physiopathology                            | Olivier Feron (coord.)<br>Emmanuel Hermans<br>Jean-Christophe Jonas (compensates<br>Philippe Lysy)                                                                  | FR [q2] [60h] [6 Credits] 🌐<br>> English-friendly |
| ○ WMDS1230   | Biologie cellulaire médicale et expérimentale                             | Stefan Constantinescu (coord.)<br>Christophe Pierreux<br>Donatienne Tyteca                                                                                          | FR [q1] [30h+20h] [4 Credits] 🌐                   |
| ○ LANGL2454  | English for biomedical students                                           | Nicholas Gibbs<br>Nevin Serbest (coord.)                                                                                                                            | EN [q2] [30h] [3 Credits] 🌐                       |
| ○ WSBIM1334  | general immunology                                                        | Isabelle Leclercq<br>Julian Leprince<br>Sophie Lucas (coord.)<br>Jean-Christophe Renauld<br>Benoit Van den Eynde<br>Nathalie Vigneron (compensates<br>Sophie Lucas) | FR [q1] [65h] [6 Credits] 🌐<br>> 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<br>Frédéric Lemaigre<br>Thomas Michiels (coord.)                                                                                                    | FR [q1] [30h+10h] [3 Credits] 🌐                   |
| ○ WSBIM1227  | Molecular biology and integrated biochemistry                             | Luc Bertrand                                                                                                                                                        | FR [q2] [20h+30h] [3 Credits] 🌐                   |
| ○ WSBIM1320  | Introduction to experimental approaches in cellular and molecular biology | Luc Bertrand<br>Anne des Rieux<br>Sandrine Horman<br>Donatienne Tyteca (coord.)                                                                                     | FR [q2] [30h] [3 Credits] 🌐                       |
| ○ WMDS1237D  | Pharmacologie générale (partim sciences dentaires)                        | Emmanuel Hermans (coord.)                                                                                                                                           | FR [q1] [20h] [2 Credits] 🌐                       |
| ○ WSBIM1302  | Molecular Virology                                                        | Thomas Michiels                                                                                                                                                     | FR [q1] [25h] [3 Credits] 🌐                       |
| ○ WSBIM1382  | Genetics and applied biotechnology                                        | Luc Bertrand (coord.)<br>Laure Dumoutier<br>Géraldine Laloux<br>Nisha Limaye                                                                                        | FR [q1] [30h] [3 Credits] 🌐<br>> English-friendly |
| ○ WSBIM1211  | Methodolgy of cell and molecular biology                                  | Guido Bommer<br>Jean-François Collet (coord.)<br>Stefan Constantinescu<br>Donatienne Tyteca                                                                         | FR [q2] [22.5h] [3 Credits] 🌐                     |

|             |                               |                                            |                                                                                                                                     |
|-------------|-------------------------------|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| ○ WFARM1305 | Elements of General Pathology | Mélanie Dechamps<br>Olivier Feron (coord.) | PK [q2] [30h] [3 Credits] <br>> English-friendly |
| ○ WFARM1247 | Statistical data processing   | Eugen Pircalabelu                          | PK [q2] [15h+15h] [3 Credits]                    |

---

## 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.

## SBIM2M1 - 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

- > [General access requirements](#)
- > [Specific access requirements](#)
- > [University Bachelors](#)
- > [Non university Bachelors](#)
- > [Holders of a 2nd cycle University degree](#)
- > [Holders of a non-University 2nd cycle degree](#)
- > [Access based on validation of professional experience](#)
- > [Access based on application](#)
- > [Admission and Enrolment Procedures for general registration](#)

### University Bachelors

| Diploma                                                                                                                                                                       | Special Requirements | Access                          | Remarks                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>UCLouvain Bachelors</b>                                                                                                                                                    |                      |                                 |                                                                                                              |
| <a href="#">Bachelor in Biomedicine</a>                                                                                                                                       |                      | Direct access                   |                                                                                                              |
| <a href="#">Bachelor in Dentistry</a><br><a href="#">Bachelor in Medicine</a><br><a href="#">Bachelor in Pharmacy</a>                                                         |                      | Access with additional training | <a href="#">Additional requirements for admission</a> de max 15 crédits intégrés dans le programme du master |
| <a href="#">Bachelor in Veterinary Medicine</a><br><a href="#">Bachelor in Chemistry</a><br><a href="#">Bachelor in Physics</a><br><a href="#">Bachelor in Bioengineering</a> |                      | Access based on application     | <a href="#">Additional requirements for admission</a> de max 60 crédits intégrés dans le programme du master |
| <b>Others Bachelors of the French speaking Community of Belgium</b>                                                                                                           |                      |                                 |                                                                                                              |
| bachelier en sciences biomédicales                                                                                                                                            |                      | Direct access                   |                                                                                                              |
| bachelier en médecine<br>sciences pharmaceutiques<br>sciences dentaires                                                                                                       |                      | Access with additional training | <a href="#">Additional requirements for admission</a> de max 15 crédits intégrés dans le programme du master |
| Bachelier en médecine vétérinaire<br>Bachelier en sciences chimiques<br>Bachelier en sciences de l'ingénieur orientation bioingénieur<br>Bachelier en sciences physiques      |                      | Access based on application     | <a href="#">Additional requirements for admission</a> de max 60 crédits intégrés dans le programme du master |
| <b>Bachelors of the Dutch speaking Community of Belgium</b>                                                                                                                   |                      |                                 |                                                                                                              |
| bachelor of Science in de biomedische wetenschappen                                                                                                                           |                      | Direct access                   |                                                                                                              |
| bachelor of Science in de geneeskunde<br>bachelor of Science in de farmaceutische wetenschappen<br>bachelor of Science in de tandheelkunde                                    |                      | Access with additional training | <a href="#">Additional requirements for admission</a> de max 15 crédits intégrés dans le programme du master |
| bachelor of Science in de diergeneeskunde<br>bachelor of Science in de chemie<br>bachelor of Science in de bio-ingenieurswetenschappen                                        |                      | Access based on application     | <a href="#">Additional requirements for admission</a> de max 60 crédits intégrés dans le programme du master |



bachelor of Science in de fysica

### 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

Additional requirements for admission de max 60 crédits intégrés dans le programme du master

### Non university Bachelors

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

| Diploma                                                                                                             | Access                                                                                                             | Remarks    |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------------|
| BA - sage-femme - crédits supplémentaires entre 15 et 30                                                            | Les enseignements supplémentaires éventuels peuvent être consultés dans <a href="#">le module complémentaire</a> . | Type court |
| 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                                                         |                                                                                                                    |            |
| BA en soins infirmiers - crédits supplémentaires entre 30 et 60                                                     |                                                                                                                    |            |
| BA en soins infirmiers pour titulaires d'un brevet d'infirmier hospitalier - crédits supplémentaires entre 30 et 60 |                                                                                                                    |            |
| BA: infirmier responsable de soins généraux - crédits supplémentaires entre 15 et 30                                |                                                                                                                    |            |

### Holders of a 2nd cycle University degree

| Diploma                                                                     | Special Requirements | Access                          | Remarks |
|-----------------------------------------------------------------------------|----------------------|---------------------------------|---------|
| <b>"Licenciés"</b>                                                          |                      |                                 |         |
|                                                                             |                      | Direct access                   |         |
| <b>Masters</b>                                                              |                      |                                 |         |
| <a href="#">Master [120] in Biochemistry and Molecular and Cell Biology</a> |                      | Access with additional training |         |
| <a href="#">Master [120] in Pharmacy</a>                                    |                      | Access based on application     |         |

### Holders of a non-University 2nd cycle degree

#### Access based on validation of professional experience

> It is possible, under certain conditions, to use one's personal and professional experience to enter a university course without having the required qualifications. However, validation of prior experience does not automatically apply to all courses. Find out more about [Validation of priori experience](#).

#### Access based on application

Access based on application : access may be granted either directly or on the condition of completing additional courses of a maximum of 60 ECTS credits, or refused.

#### Admission and Enrolment Procedures for general registration

## Teaching method

---

The teaching methods used in the Master programme place the student in active learning situations with a balanced mix of group and individual work.

In addition, there will be a variety of different teaching methods : lectures, exercise sessions, problem solving activities, assignments to be done in individually or in small groups etc.

The dissertation, directed by a supervisor, enables students to acquire skills in the critical analysis of the literature.

## Evaluation

---

***The evaluation methods comply with the regulations concerning studies and exams (<https://uclouvain.be/fr/decouvrir/rgee.html>). More detailed explanation of the modalities specific to each learning unit are available on their description sheets under the heading "Learning outcomes evaluation method".***

For the theoretical courses, there are traditional written or oral examinations.

Fifteen credits are devoted to the dissertation : this is assessed on the basis of the submission of piece of written work which must be defended before a panel of experts.

## Mobility and/or Internationalisation outlook

---

Foreign students may join the 60 credit Master on the basis of prerequisite subjects approved by the programme committee.

## Possible trainings at the end of the programme

---

120 credit Masters :

By the end of this year of training, graduates of the 60 credit Master in Biomedical Sciences may move on to the teaching qualification for higher secondary education.

Links with teaching qualification (l'agrégation de l'enseignement secondaire supérieur - AESS) : the only university training directly accessible to holders of the 60 credit Master is the teaching qualification for higher secondary education (30 credits).

## Contacts

---

### Curriculum Management

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<br>1200 Woluwe-Saint-Lambert<br>Tel: +32 (0)2 764 73 62 - Fax: +32 (0)2 764 73 63 |

Other academic Supervisor(s)

- Charles De Smet

Jury

- Charles De Smet
- Laurent Gatto

Useful Contact(s)

- Luc Bertrand
- Guillaume Arnould
- Charles De Smet
- Johanne Garny

