



The version you're consulting is not definitive. This programme still may change. The final version will be published on 1th June.

At Louvain-la-Neuve - 180 credits - 3 years - Day schedule - In French

Dissertation/Graduation Project : **NO** - Internship : **NO**

Activities in English: **YES** - Activities in other languages : **NO**

Activities on other sites : **NO**

Main study domain : **Sciences**

Organized by: **Faculty of Science (SC)**

Programme acronym: **PHYS1BA** - Francophone Certification Framework: 6

Table of contents

Introduction	2
Teaching profile	3
Learning outcomes	3
Programme structure	4
Programme	4
Detailed programme by subject	4
List of available minors	7
Course prerequisites	8
The programme's courses and learning outcomes	8
Detailed programme per annual block	8
PHYS1BA - 1st annual unit	8
PHYS1BA - 2nd annual unit	10
PHYS1BA - 3rd annual unit	12
Information	14
Access Requirements	14
Teaching method	16
Evaluation	16
Mobility and/or Internationalisation outlook	16
Possible trainings at the end of the programme	16
Contacts	16

PHYS1BA - Introduction

Introduction

Introduction

The physicist possesses great capacities of reasoning and abstraction. He/she continually asks questions about the physical world around him/her in order to understand how it works. He/she observes, makes assumptions, formalizes concepts, and writes and solves the equations governing them in order to confront them with observations and experience. Thanks to his/her thorough and versatile scientific training, he/she contributes to the great challenges of the Society of today and tomorrow. He/she is involved in cutting-edge research and the resolution of important questions related to the genesis and evolution of the Universe, the fundamental interactions between elementary particles, quantum optics, statistical physics, origins of the Earth, global climate change, sustainable development, energy choices, etc.

The skills developed by the physicist as part of his/her training, including his/her ability to model and characterize large data sets, can be valued in many professions specific to the realms of today's physics, such as the supraconductivity, instrumentation and metrology, laser physics, nuclear physics, nonlinear physics, cosmology, astrophysics, astronomy, planetology, geophysics, meteorology, climatology, oceanography and glaciology, or in fields as varied as the medical sciences, space sciences, signal processing, but also actuarial sciences, finance, consultancy, banking and all areas where statistical methods, IT and tools related to artificial intelligence are important. Through his/her teamwork skills, the physicist also develops skills in communication, scientific popularization and management. His/her various skills will enable him/her to contribute to the creation of tomorrow's jobs.

At the end of your Bachelor studies in physics, you

- will have received training that will allow you to learn specialized subjects in physical sciences;
- will be able to deal with advanced physics issues alone or in groups;
- will be able to analyze and model complex phenomena using your theoretical knowledge and technical skills;
- will have a sufficient level of English to understand a scientific presentation or read a scientific text in that language.

Your profile

You are curious and interested in understanding the physical phenomena of the world around you. You like sciences, especially physics and mathematics. You appreciate the precision and rigor of a reasoning. Making assumptions and testing them is your passion. You then have the profile to start Bachelor studies in physics.

You will have the chance to follow a personalized education with internationally recognized teachers. It is better if you already have a good level in physics and mathematics, but you have to know that the teaching restarts almost to zero. It is your desire to invest that will make the difference, we will do everything to help you !

Your future job

The training in physics aims at mastering advanced physical and mathematical tools. It develops skills such as curiosity and scientific rigor, the capacity for abstraction, the modeling of complex physical problems, the sense of precision and experimental measurement as well as the ability to work in a team and to communicate.

Thanks to this versatile training, there are many career opportunities.

One main track is to start a career in research (university laboratories, private laboratories, European Organization for Nuclear Research - CERN, Atomic Energy Commission, Institute for Space Aeronomy of Belgium, Royal Meteorological Institute of Belgium, Royal Observatory of Belgium, etc.) or in secondary and / or higher education (high schools).

Physicists also find jobs in the private or financial sector. Some of them work in the medical field as a hospital physicist, in the high technology industry (telecommunications, optics, aeronautics, space industry, medical equipment, etc.), in the field of energy, in the field of information technology (big data processing, design of calculation programs, etc.), for banks and insurance companies, in the field of environmental consultancy and in the sector of scientific communication and popularization.

Your programme

The programme of the Bachelor's in physics offers:

- a basic training in physics, mathematics and chemistry;
- specialized and advanced teaching units in physics;
- an understanding of the physicist's specific approach (observe, understand, analyze in a critical and quantitative way and model the physical phenomena of nature);
- an introduction to digital and instrumental techniques, data sciences and computer science;
- language (English) and human science teaching units;
- a lot of practical works (exercises, laboratories and personal or group projects);
- the possibility to conduct a research work;
- an additional module or minor of 30 credits.

Once graduated, you will be able to continue your training by following the Master [120] in physics.

PHYS1BA - Teaching profile

Learning outcomes

Understanding, explaining and applying the foundations of the scientific method and the fundamental laws of physics are the challenges that the student enrolled in the Bachelor in physics is preparing to meet in order to mobilize his/her knowledge and skills to follow the Master [120] in physics.

At the end of this programme, the student will have acquired a basic knowledge of the fundamental laws of physics and the basic concepts of mathematics necessary for the study of physics. He/she will be able to solve physics problems using mathematical and numerical tools, to analyze physical phenomena using experimental techniques, to model simple physical systems, to apply a scientific approach and to argument with rigor. He/she will have developed skills in self-reliance, communication and teamwork.

At the end of his/her training at the Faculty of Sciences, the student will have acquired the disciplinary and cross-disciplinary knowledge and skills needed to perform numerous professional activities. His/her modeling skills and in-depth understanding of phenomena, his/her liking for research and his/her scientific rigor will be sought not only in the scientific professions (research, development, teaching, etc.), but also more generally in the present and future Society.

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

1.

Demonstrate a thorough knowledge of the fundamental laws of physics and master and use the basic concepts of mathematics.

1.1 Explain the basic concepts of general physics, microscopic physics, statistical physics, macroscopic physics, theoretical and mathematical physics, experimental physics, and numerical simulation in physics.

1.2 Use the basic tools of mathematical analysis, algebra, geometry and statistics.

1.3 Recognize the fundamental concepts of scientific theories.

1.4 Apply physical and mathematical theories to solve a problem.

1.5 Adequately employ the basic principles of experimental physics: measurements and their uncertainties, measuring instruments, basic data processing by computer tools.

1.6 Explain a measurement method.

1.7 Model simple systems and predict their evolution using numerical methods, including computer simulations.

1.8 Reconstitute the historical evolution of the basic concepts of physics.

2.

Demonstrate methodological, technical, and practical skills for problem solving in physics.

2.1 Justify the choice of methods and tools used to solve known problems in physics.

2.2 Properly use instruments to perform a measurement or study a physical system.

2.3 Correctly handle computer tools to help solve problems in physics.

2.4 Apply basic tools to model simple physical systems and solve known problems in the fundamental areas of physics.

3.

Describe and evaluate a scientific approach and reasoning.

3.1 Evaluate the simplicity, clarity and rigor of a scientific reasoning.

3.2 Build physical reasoning and formalize it.

3.3 Argue the validity of a scientific result.

3.4 Calculate the orders of magnitude of a problem in physics.

3.5 Recognize the analogies between different problems in physics.

3.6 Judge the relevance of a scientific approach and the interest of a physical theory.

4.

Learn and act independently.

4.1 Search, with relevant references, for additional information on the basic concepts of physics.

4.2 Read and interpret this information alone.

4.3 Integrate this information in order to have a complete understanding of a concept.

4.4 Organize and manage time and study.

5.

Work in a team and collaborate with students and teachers to achieve common goals and produce results.

5.1 Share knowledge and methods.

5.2 Identify individual and collective goals and responsibilities and work in accordance with these roles.

5.3 Join a team.

5.4 Recognize and respect the views and opinions of team members.

6.

Communicate in French and English as part of his academic training.

6.1 Read and understand scientific texts in French and English (C1 CEFR level).

6.2 Follow a scientific presentation in English (level B2 CEFR).

6.3 Orally present a topic in a structured way in French and / or English.

6.4 Write scientific reports in a structured way and cite the sources correctly.

6.5 Use a variety of media and computer tools to communicate and explain scientific concepts and results.

Programme structure

The programme leading to the Bachelor degree in physics consists of (1) a general training called major in physics (150 credits) and (2) either an additional module in physics (30 credits) or a minor or additional module in another discipline (30 credits). It is spread over three annual units of 60 credits each and allows you to address the main topics of today's physics and acquire the knowledge and skills necessary to start a Master [120] in physics. It includes many practicals (exercises, laboratories and personal or group projects) and gives you the opportunity to carry out a research work.

The programme of the major in physics includes:

- a basic training in physics (34 credits);
- an advanced training in physics (35 credits);
- a specialized training in physics (12 credits);
- a training in mathematics (38 credits);
- a training in digital and instrumental techniques, data science and computer science (15 credits);
- a training in chemistry (5 credits);
- a training in languages (English) and human sciences (11 credits).

It should be noted that the programme of the first annual unit of the Bachelor in physics is very similar to the one of the first annual unit of the Bachelor in mathematics.

PHYS1BA Programme

Detailed programme by subject

- Mandatory
- ✘ Optional
- △ Not offered in 2025-2026
- ⊙ Not offered in 2025-2026 but offered the following year
- ⊕ Offered in 2025-2026 but not the following year
- △ ⊕ Not offered in 2025-2026 or the following year
- Activity with requisites
- 🌐 Open to incoming exchange students
- 🚫 Not open to incoming exchange students
- (FR) Teaching language (FR, EN, ES, NL, DE, ...)

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

	Year		
	1	2	3
○ Majeure (150 credits)			

○ Basic training in physics (34 credits)

○ LPHYS1111	Mechanics 1 [M]		(FR) [q1] [52.5h+52.5h] [9 Credits] 🌐	X		
○ LPHYS1113	Mechanics 2		(FR) [q2] [30h+25h] [5 Credits] 🌐	X		
○ LMAT1261	Lagrangian and Hamiltonian mechanics	Christian Walmsley Hagendorf	(FR) [q1] [22.5h+30h] [5 Credits] 🌐 > English-friendly		X	
○ LPHYS1114	Thermodynamics		(FR) [q2] [22.5h+20h] [5 Credits] 🌐	X		
○ LPHYS1221	Electromagnetism 1		(FR) [q1] [52.5h+52.5h] [10 Credits] 🌐		X	

o Advanced training in physics (31 credits)

○ LPHYS1213	Physics of fluids		FR [q2] [37.5h+30h] [5 Credits]		X	
○ LPHYS1231	Special Relativity		FR [q2] [30h+15h] [5 Credits]		X	
○ LPHYS1241	Quantum Physics 1		FR [q2] [30h+30h] [5 Credits]		X	
○ LPHYS1322	Electromagnetism 2		FR [q1] [37.5h+22.5h] [5 Credits] > English-friendly			X
○ LPHYS1342	Quantum Physics 2		FR [q1] [45h+22.5h] [5 Credits] > English-friendly			X
○ LPHYS1343	Statistical physics		FR [q2] [45h+30h] [6 Credits] > English-friendly			X

o Specialized training in physics (15 credits)

○ LPHYS1345	Solid state physics		FR [q2] [30h+22.5h] [5 Credits] > English-friendly			X
○ LPHYS1346	Physique subatomique	Christophe Delaere	FR [q2] [22.5h+22.5h] [5 Credits]			X
○ LPHYS1347	Physique atomique et moléculaire		FR [q2] [22.5h+22.5h] [5 Credits]			X

o Training in mathematics (38 credits)

○ LMAT1121	Differential and integral calculus	Tom Claeys	FR [q1] [30h+30h] [5 Credits]	X		
○ LMAT1122	Mathematical analysis : differentiation	Augusto Ponce	FR [q2] [45h+45h] [8 Credits]	X		
○ LMAT1131	Linear Algebra	Marino Gran	FR [q1] [45h+45h] [8 Credits]	X		
○ LMAT1141	Geometry I	Pascal Lambrechts	FR [q2] [45h+30h] [7 Credits]	X		
○ LMAT1222	Complex analysis 1	Tom Claeys	FR [q2] [30h+15h] [5 Credits] > English-friendly		X	
○ LPHYS1202	Mathematical methods for physics		FR [q1] [30h+30h] [5 Credits]		X	

o Training in digital and instrumental techniques, data science and computer science (16 credits)

○ LMAFY1101	Data exploration and introduction to statistical inference	Anouar El Ghouch	FR [q2] [30h+30h] [5 Credits]	X		
○ LPHYS1201	Computer Science and Numerical Methods		FR [q1] [30h+45h] [6 Credits]		X	
○ LPHYS1303	Numerical Simulation in Physics		FR [q1] [22.5h+30h] [5 Credits] > English-friendly			X

o Training in chemistry (5 credits)

○ LCHM1112	General Chemistry	Yaroslav Filinchuk	FR [q1] [30h+22.5h] [5 Credits]	X		
------------	-------------------	--------------------	---------------------------------	---	--	--

o Training in languages and human sciences (11 credits)

o English (7 credits)

○ LANG1861	English: reading and listening comprehension of scientific texts	Catherine Avery (coord.) Fanny Desterbecq Marc Pivnik	EN [q2] [10h] [3 Credits]	X		
○ LANG1862	English: reading and listening comprehension of scientific texts	Ahmed Adriouèche (coord.) Catherine Avery Ariane Halleux (coord.)	EN [q1] [30h] [2 Credits]		X	
○ LANG1863	English for Students in Sciences (Upper-Intermediate level)	Ahmed Adriouèche (coord.) Catherine Avery (coord.) Amandine Dumont (coord.) Sandrine Jacob (coord.) Nevin Serbest Françoise Stas	EN [q1 or q2] [30h] [2 Credits]			X

o Religious sciences (2 credits)

The student chooses one teaching unit among

☒ LTECO2100	Sociétés, cultures, religions : Biblical readings	Hans Ausloos	FR [q1] [15h] [2 Credits]		X	
-------------	---	--------------	---------------------------	--	---	--

				Year		
				1	2	3
⌘ LTECO2200	Societies-cultures-religions : Human Questions		EB [q1] [15h] [2 Credits]		x	
⌘ LTECO2300	Societies, cultures, religions : Ethical questions		EB [q1] [15h] [2 Credits]		x	

○ Philosophy (2 credits)

○ LSC1120A	Philosophy		EB [q1] [45h] [2 Credits]			x
------------	------------	--	---------------------------	--	--	---

⌘ Optional courses

These credits are not counted within the 120 required credits.

⌘ LSST1001	IngénieuxSud	Stéphanie Merle Jean-Pierre Raskin	EB [q1+q2] [15h+45h] [5 Credits]			x
⌘ LSST1002M	Information and critical thinking - MOOC		EB [q2] [30h+15h] [3 Credits]			x

○ Minor or additional module (30 credits)

The student completes his/her training by choosing either the annual module in physics, or a minor or additional module in the list proposed for the Bachelor in physics, for a total of 30 credits. He/she distributes the teaching units according to the following model: 10 credits during the second semester of the second annual unit, 10 or 15 credits during the first semester of the third annual unit and 10 or 5 credits during the second semester of the third annual unit.

Maximum 1 element(s)

List of available minors

- > Additionnal module in Physics [en-prog-2025-apphys]
- > Minor in Mathematics [en-prog-2025-minmath]
- > Minor in Geography [en-prog-2025-mingeog]
- > Minor in Scientific Culture [en-prog-2025-mincults]
- > Approfondissement en statistique et sciences des données [en-prog-2025-appstat]
- > Minor in Computer Sciences [en-prog-2025-minsinf]
- > Minor in Mechanics [en-prog-2025-lminomeca]
- > Minor in Construction [en-prog-2025-lminogce]
- > Minor in Electricity [en-prog-2025-lminoelec]
- > Minor in Applied Chemistry and Physics [en-prog-2025-minofyki]
- > Minor in Applied Mathematics [en-prog-2025-lminomap]
- > Mineure Polytechnique [en-prog-2025-minpoly]
- > Minor in Culture and Creation [en-prog-2025-mincucrea]
- > Minor : Issues of Transition and Sustainable Development (*) [en-prog-2025-mindd]
- > Minor in Gender Studies [en-prog-2025-mingenre]

(*) This programme is the subject of access criteria

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](#).

Prerequisites list

LANG1862 "English: reading and listening comprehension of scientific texts" has prerequisite(s) LANG1861

- LANG1861 - English: reading and listening comprehension of scientific texts

The programme's courses and learning outcomes

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

Detailed programme per annual block

PHYS1BA - 1ST ANNUAL UNIT

- Mandatory
- ⊗ Optional
- △ Not offered in 2025-2026
- ⊙ Not offered in 2025-2026 but offered the following year
- ⊕ Offered in 2025-2026 but not the following year
- △ ⊕ Not offered in 2025-2026 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 Basic training in physics

○ LPHYS1111	Mechanics 1 [M]		FR [q1] [52.5h +52.5h] [9 Credits] 🌐
○ LPHYS1113	Mechanics 2		FR [q2] [30h +25h] [5 Credits] 🌐
○ LPHYS1114	Thermodynamics		FR [q2] [22.5h +20h] [5 Credits] 🌐

o Training in mathematics

o LMAT1121	Differential and integral calculus	Tom Claeys	ES [q1] [30h +30h] [5 Credits]
o LMAT1122	Mathematical analysis : differentiation	Augusto Ponce	ES [q2] [45h +45h] [8 Credits]
o LMAT1131	Linear Algebra	Marino Gran	ES [q1] [45h +45h] [8 Credits]
o LMAT1141	Geometry I	Pascal Lambrechts	ES [q2] [45h +30h] [7 Credits]

o Training in digital and instrumental techniques, data science and computer science

o LMAFY1101	Data exploration and introduction to statistical inference	Anouar El Ghouch	ES [q2] [30h +30h] [5 Credits]
-------------	--	------------------	---

o Training in chemistry

o LCHM1112	General Chemistry	Yaroslav Filinchuk	ES [q1] [30h +22.5h] [5 Credits]
------------	-------------------	--------------------	---

o Training in languages and human sciences

o English

o LANG1861	English: reading and listening comprehension of scientific texts	Catherine Avery (coord.) Fanny Desterbecq Marc Piwnik	ES [q2] [10h] [3 Credits]
------------	--	---	---------------------------------

PHYS1BA - 2ND ANNUAL UNIT

- Mandatory
- ⊗ Optional
- △ Not offered in 2025-2026
- ⊖ Not offered in 2025-2026 but offered the following year
- ⊕ Offered in 2025-2026 but not the following year
- △ ⊕ Not offered in 2025-2026 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 Basic training in physics**

○ LMAT1261	Lagrangian and Hamiltonian mechanics	Christian Walmsley Hagendorf	(FR) [q1] [22.5h +30h] [5 Credits] 🌐 > English- friendly
○ LPHYS1221	Electromagnetism 1		(FR) [q1] [52.5h +52.5h] [10 Credits] 🌐

o Advanced training in physics

○ LPHYS1213	Physics of fluids		(FR) [q2] [37.5h +30h] [5 Credits] 🌐
○ LPHYS1231	Special Relativity		(FR) [q2] [30h +15h] [5 Credits] 🌐
○ LPHYS1241	Quantum Physics 1		(FR) [q2] [30h +30h] [5 Credits] 🌐

o Training in mathematics

○ LMAT1222	Complex analysis 1	Tom Claeys	(FR) [q2] [30h +15h] [5 Credits] 🌐 > English- friendly
○ LPHYS1202	Mathematical methods for physics		(FR) [q1] [30h +30h] [5 Credits] 🌐

o Training in digital and instrumental techniques, data science and computer science

○ LPHYS1201	Computer Science and Numerical Methods		(FR) [q1] [30h +45h] [6 Credits] 🌐
-------------	--	--	---

o Training in languages and human sciences**o English**

○ LANG1862	English: reading and listening comprehension of scientific texts ■	Ahmed Adriouche (coord.) Catherine Avery Ariane Halleux (coord.)	(FR) [q1] [30h] [2 Credits] 🌐
------------	--	---	-------------------------------------

o Religious sciences

The student chooses one teaching unit among

⌘ LTECO2100	Sociétés, cultures, religions : Biblical readings	Hans Ausloos	FB [q1] [15h] [2 Credits] 🌐
⌘ LTECO2200	Societies-cultures-religions : Human Questions		FB [q1] [15h] [2 Credits] 🌐
⌘ LTECO2300	Societies, cultures, religions : Ethical questions		FB [q1] [15h] [2 Credits] 🌐

o Minor or additional module

The student completes his/her training by choosing either the annual module in physics, or a minor or additional module in the list proposed for the Bachelor in physics, for a total of 30 credits. He/she distributes the teaching units according to the following model: 10 credits during the second semester of the second annual unit, 10 or 15 credits during the first semester of the third annual unit and 10 or 5 credits during the second semester of the third annual unit. Maximum 1 element(s)

PHYS1BA - 3RD ANNUAL UNIT

- Mandatory
- ⊗ Optional
- △ Not offered in 2025-2026
- ⊖ Not offered in 2025-2026 but offered the following year
- ⊕ Offered in 2025-2026 but not the following year
- △ ⊕ Not offered in 2025-2026 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 Advanced training in physics**

○ LPHYS1322	Electromagnetism 2		(FR) [q1] [37.5h +22.5h] [5 Credits] 🌐 > English- friendly
○ LPHYS1342	Quantum Physics 2		(FR) [q1] [45h +22.5h] [5 Credits] 🌐 > English- friendly
○ LPHYS1343	Statistical physics		(FR) [q2] [45h +30h] [6 Credits] 🌐 > English- friendly

o Specialized training in physics

○ LPHYS1345	Solid state physics		(FR) [q2] [30h +22.5h] [5 Credits] 🌐 > English- friendly
○ LPHYS1346	Physique subatomique	Christophe Delaere	(FR) [q2] [22.5h +22.5h] [5 Credits] 🌐
○ LPHYS1347	Physique atomique et moléculaire		(FR) [q2] [22.5h +22.5h] [5 Credits] 🌐

o Training in digital and instrumental techniques, data science and computer science

○ LPHYS1303	Numerical Simulation in Physics		(FR) [q1] [22.5h +30h] [5 Credits] 🌐 > English- friendly
-------------	---	--	---

o Training in languages and human sciences**o English**

○ LANG1863	English for Students in Sciences (Upper-Intermediate level)	Ahmed Adriouche (coord.) Catherine Avery (coord.) Amandine Dumont (coord.) Sandrine Jacob (coord.) Nevin Serbest Françoise Stas	(EN) [q1 or q2] [30h] [2 Credits] 🌐
------------	---	--	--

○ Philosophy

○ LSC1120A	Philosophy		ES [q1] [45h] [2 Credits] 🌐
------------	------------	--	-----------------------------------

⊗ Optional courses

These credits are not counted within the 120 required credits.

⊗ LSST1001	IngénieursSud	Stéphanie Merle Jean-Pierre Raskin	ES [q1+q2] [15h +45h] [5 Credits] 🌐
⊗ LSST1002M	Information and critical thinking - MOOC		ES [q2] [30h +15h] [3 Credits] 🌐

○ Minor or additional module

The student completes his/her training by choosing either the annual module in physics, or a minor or additional module in the list proposed for the Bachelor in physics, for a total of 30 credits. He/she distributes the teaching units according to the following model: 10 credits during the second semester of the second annual unit, 10 or 15 credits during the first semester of the third annual unit and 10 or 5 credits during the second semester of the third annual unit. Maximum 1 element(s)

PHYS1BA - 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](#) 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):

- European Baccalaureate issued by the Board of Governors of a European School,
- International Baccalaureate issued by the International Baccalaureate Office in Geneva.

8. Official documentation attesting to a student's ability to pursue higher education (diplôme d'aptitude à accéder à l'enseignement supérieur - DAES), issued by the Examination Board of the French Community.

Specific access requirements

- Access to bachelor programmes for candidates of nationality outside the European Union who are not assimilated to Belgian nationals is subject to the following criteria:
 - not have obtained a secondary education diploma for more than 3 years maximum. Example: for an admission application for the academic year 2024-2025, you must have obtained your diploma during the academic years 2021-2022, 2022-2023 ou 2023-2024. In the French Community of Belgium, the academic year runs from September 14 to September 13
 - not already hold an undergraduate degree
- Candidates, whatever their nationality, with a secondary school diploma **from a country outside the European Union**, must have obtained an average of 13/20 minimum or, failing that, have obtained this average, have passed one year of study in Belgium (for example special Maths / sciences). A non-successful year will not be taken into consideration.

- 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 equivalence for the programme of your choice, in addition of it, you **must** have either the [DAES](#) or a certificate of successful completion of the [examination giving access to 1st cycle studies](#) when you submit your application

Access based on validation of professional experience

Admission to undergraduate studies on the basis of accreditation of knowledge and skills obtained through professional or personal experience (Accreditation of Prior Experience)

Subject to the general requirements laid down by the authorities of the higher education institution, with the aim of admission to the undergraduate programme, the examination boards accredit the knowledge and skills that students have obtained through their professional or personal experience.

This experience must correspond to at least five years of documented activity, with years spent in higher education being partially taken into account: 60 credits are deemed equivalent to one year of experience, with a maximum of two years being counted. At the end of an assessment procedure organized by the authorities of the higher education institution, the Examination Board will decide whether a student has sufficient skills and knowledge to successfully pursue undergraduate studies.

After this assessment, the Examination Board will determine the additional courses and possible exemptions constituting the supplementary requirements for the student's admission.

Special requirements to access some programmes

- Admission to **undergraduate studies in engineering: civil engineering and architect**

Pass certificate for the [special entrance examination for undergraduate studies in engineering: civil engineering and architect](#).

Admission to these courses is always subject to students passing the special entrance examination. Contact the faculty office for the programme content and the examination arrangements.

- Admission to **undergraduate studies in veterinary medicine**

[Admission to undergraduate studies in veterinary medicine is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses \(non-residents\)](#).

- Admission to **undergraduate studies in physiotherapy and rehabilitation**

[Admission to undergraduate studies in physiotherapy and rehabilitation is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses \(non-residents\)](#).

- Admission to **undergraduate studies in psychology and education: speech and language therapy**

[Admission to undergraduate studies in psychology and education: speech and language therapy is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses \(non-residents\)](#).

- Admission to **undergraduate studies in medicine and dental science**

[Admission to undergraduate studies in medicine and dental science is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses \(non-residents\)](#).

Note: students wishing to enrol for a **Bachelor's degree in Medicine** or a **Bachelor's degree in dental science** must first sit an [aptitude test \(fr\)](#).

- Access to **Bachelor of Science in Business Engineering**

The Bachelor of Science in Business Engineering is a joint program organised by KU Leuven and UCLouvain Saint-Louis Bruxelles. In order to register, all candidate must first submit an application via the [KU Leuven admission platform](#). The [conditions of access](#) to this programme are specific.

Teaching method

During the first annual unit :

- Sessions are organized around working method issues such as how to approach different subjects and time management.
- Tutorials allow students to take stock of the subjects presented at the courses: teachers in each discipline answer questions and explain the less understood concepts.
- Compulsory tests are organized one month after the start of classes in the first semester.

During the three annual units :

- Exercise and laboratory sessions are organized in small groups and supervised by assistants. Some practicals are subject to knowledge checks at the beginning of the session and reports to be written at the end of the session.
- Personal and / or group work is planned for certain activities.
- Websites are associated with most teaching units : useful information for the student is deposited there.

Evaluation

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

Different modalities are implemented for the assessment of the knowledge and skills acquired during the training; they are adapted to the types of services: continuous evaluation, notably for the practicals, evaluation of the personal and group work, and global evaluation (written and / or oral) during the exam sessions.

Mobility and/or Internationalisation outlook

International mobility is recommended rather within the framework of master programmes. In special cases, however, it is possible to consider international mobility at the end of the bachelor's degree.

Moreover, participation in a short mobility can be envisaged at the end of the bachelor's degree in the framework of the Athens network <https://www.paristech.fr/fr/international/europe/athens>

Possible trainings at the end of the programme

The Bachelor's degree in physical sciences gives direct access to the :

- [Master \[120\] in Physics](#)
- [Master \[60\] in Physics](#)
- [Master \[120\] in Data Science : Statistic](#)
- [Master \[120\] in Actuarial Science](#)
- [Master \[120\] in Statistics: General](#)

It also gives access to the [Master \[120\] in Mathematics](#) (on file), after having followed and passed the minor in mathematics, and the [Master \[120\] in Statistics: Biostatistics](#) (on file).

In addition, UCLouvain Masters (usually orphans) are widely available to graduates of the UCLouvain. For example :

- the [Master \[120\] in Population and Development Studies](#) (direct access for all Bachelor's degrees),
- the [Master \[120\] in European Studies](#) (direct access for all Bachelor's degrees after having followed and passed the minor in European studies, on file for others),
- the [Master \[120\] in Ethics](#) (access for all Bachelor's degrees after additional training).

Contacts

Curriculum Management

Entity

Structure entity

Denomination

Faculty

Sector

Acronym

SST/SC/PHYS

(PHYS)

Faculty of Science (SC)

Sciences and Technology (SST)

PHYS

Postal address

Chemin du Cyclotron 2 - bte L7.01.04

1348 Louvain-la-Neuve

Tel: +32 (0) 10 47 32 94 - Fax: +32 (0) 10 47 30 68

<https://uclouvain.be/fr/facultes/sc/phys>

Website

Academic supervisor: [Vincent Lemaitre](#)

Jury

- President: [Christian Walmsley Hagendorf](#)
- Secretary: [Christophe Delaere](#)
- Study advisor: [Clément Lauzin](#)

Useful Contact(s)

- Administrative manager for the student's annual program: [Nathalie Micha](#)

