

At Louvain-la-Neuve - 120 credits - 2 years - Day schedule - In English

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

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

Activities on other sites : **optional**

Main study domain : **Sciences**

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

Programme acronym: **PHYS2M** - Francophone Certification Framework: 7

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[Introduction](#)

o Formation spécialisée en physique (30 credits)

NB : Des programmes types en fonction des orientations de la recherche en sciences physiques à l'UCLouvain sont proposés sur le site Web de l'école de physique. L'étudiant-e choisit 30 crédits parmi les UE ci-dessous (les UE LPHYS2143 et LPHYS2102 sont vivement conseillées pour les étudiant-e-s inscrit-e-s à la finalité spécialisée) :

⌘ Physique statistique et mathématique

⌘ LPHYS2112	Mathematical physics	Christophe Ringeval	EN [q1] [30h] [5 Credits]  > French-friendly	X
⌘ LPHYS2113	Critical phenomena	Philippe Ruelle1 G	0 d 2 w 0 0 m 85.0e3.043999 m 353.3	

				Year	
				1	2
⊗ LSC2001	Introduction to contemporary philosophy	Peter Verdée Peter Verdée (compensates Charles Pence)	EN [q2] [30h] [2 Credits]	x	x
⊗ LSC2220	Philosophy of science	Alexandre Guay	EN [q2] [30h] [2 Credits]	x	x
⊗ LFILO2003E	Ethics in the Sciences and technics (sem)	Alexandre Guay (compensates Charles Pence) Hervé Jeanmart René Rezsóhazy	EN [q2] [15h+15h] [2 Credits]	x	x
⊗ LTHEO2840	Science and Christian faith	Benoît Bourguine Paulo Jorge Dos Santos Rodrigues	EN [q1] [15h] [2 Credits]	x	x

⊗ Formation facultative

These credits are not counted within the 120 required credits.

⊗ LSST1001	IngénieursSud	Stéphanie Merle Jean-Pierre Raskin (coord.)	EN [q1+q2] [15h+45h] [5 Credits]	x	x
⊗ LSST1002M	Information and critical thinking - MOOC	Myriam De Kesel Jean-François Rees	EN [q2] [30h+15h] [3 Credits]	x	x

TEACHING FOCUS [30.0]

IMPORTANT NOTE: In accordance with article 138 para. 4 of the decree of 7 November 2013 concerning higher education and the academic organisation of studies, teaching practice placements will not be assessed in the September session. Students are required to make every effort to

● LAGRE2400	See specifications in french	
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⊗ LGEO1343

⊗ LGBIO1112 Introduction to biomedical engineering

Alternatives

> [Master \[120\] in Physics \[professional focus of Medical Physics : UCLouvain-KULeuven\]](https://uclouvain.be/190991_0.51S_Q_0.2745_0.n-KULeu) [https://uclouvain.be/190991_0.51S_Q_0.2745_0.n-KULeu]

Medical Information Systems (3 credits)

Choose a course from

⌘ EPHMD2376	Medical Information Systems		
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○ Philosophy, Sustainability and Ethics (6 credits)

Choose between the UCLouvain module and the KU Leuven module

⌘ Philosophy, Sustainability and Ethics (KU Leuven) (6 credits)

<input type="radio"/>	EPHMD2354	Science and Sustainability: a socio-ecological approach		EN [q1] [24h] [3 Credits]			X
<input type="radio"/>	EPHMD2379	Ethics and Law in Biomedical Research		EN [q2] [20h] [3 Credits]			X

⌘ Philosophy, Sustainability and Ethics (UCLouvain) (6 credits)

<input type="radio"/>	WMDS2135	Enjeux sociaux et éthique de la santé et de la médecine 1		FR [q2] [24h] [2 Credits]		X	
<input type="radio"/>	WMDS2235	Enjeux sociaux et éthiques de la santé et de la médecine 2	Isabelle Aujoulat Anne Berquin Jean-Philippe Cobbaut Dominique Lamy Alain Loute (coord.) Isabelle Scheers	FR [q2] [18h] [2 Credits]			X

Course prerequisites

There are no prerequisites between course units (CUs) for this programme, i.e. the programme activity (course unit, CU) whose learning outcomes are to be certified and the corresponding credits awarded by the jury before registration in another CU.

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.

PHYS2M - 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

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Specific access requirements

Since this program is taught in English, no prior proof of French language proficiency is required, except for students wishing to access the didactic program who must provide proof of a CEFR level C1 proficiency.

Students who wish to be admitted on the basis of a dossier (see tables below) are invited to consult the [criteria for the evaluation of application](#).

Concerning the specific program in medical physics in co-graduation UCLouvain - KU Leuven, [specific information](#) is applicable. Apply at <https://www.kuleuven.be/english/application/instructions>

University Bachelors

Diploma	Special Requirements	Access	Remarks
UCLouvain Bachelors			
Bachelor in Physics		Direct access	
Bachelor in Mathematics	Si l'étudiant a suivi la Titre inconnu:Iminphys	Access based on application	In some cases, the UCLouvain Enrolment Office, after reviewing their online enrolment or re-enrolment application, will ask the students concerned to provide an enrolment authorisation from the faculty/ school.
Bachelor in Engineering	Si l'étudiant a suivi la Titre inconnu:Iminphys	Access based on application	In some cases, the UCLouvain Enrolment Office, after reviewing their online enrolment or re-enrolment application, will ask the students concerned to provide an enrolment authorisation from the faculty/ school.
Bachelor in Geography : General	Crédits de la Minor in Physics acquis	Access based on application	In some cases, the UCLouvain Enrolment Office, after reviewing their online enrolment or re-enrolment application, will ask the students concerned to provide an enrolment

Specific professional rules

Successful completion of the master's course with **teaching focus** leads to the award of the master's degree with teaching focus and the title of secondary school education specialist.

The [Réforme des Titres et Fonctions](#) ("Titles and Functions Reform"), in force since 1 September 2016, is intended to harmonise the titles, functions and pay scales of basic and secondary education professionals in French Community of Belgium networks.

It also aims to guarantee the priority of preferred titles over minimum titles and to establish a regime for titles in short supply.

AESS holders can learn which functions they can carry out and the pay scales from which they can benefit by [clicking here](#).

The university cannot be held responsible for any problems that students may encounter at a later date with a view to a teaching appointment in the French Community of Belgium.

Teaching method

Most teaching units are given by default in English.

Various teaching methods are used : lectures, flipped classroom, project-based learning, etc. Exercise and practical lab sessions are organized for certain teaching units. Individual or group projects are planned for most of the teaching units. These projects play a significant role (around 20%) in the final grade.

Almost all teaching units have a website on the MoodleUCL platform. Useful information is provided, as well as syllabi and other documents essential to student's work.

The Master's thesis is a formative activity that must lead students to demonstrate their ability to (1) deal in depth with a physical problem in all its real complexity, by conducting a personal research, under the direction of a promoter, and (2) write a summary of his/her work and defend it in public in a rigorous and educational way, while being able to answer relatively specific questions. The various stages are : constitution of a relevant bibliography on the subject, reading and understanding of the selected articles, implementation and execution of the project, analysis and interpretation of the results obtained, writing of a synthesis manuscript and oral presentation of the latter. To carry out this project, the student is embedded in a research group with which he/she can interact.

Possible trainings at the end of the programme

Whatever the focus chosen, the Master's [120] degree gives direct access to the PhD in Science.

In addition, there are two particularly adapted programmes that allow for further study and obtaining specific diplomas :

1) An additional year of study at Mol, after the Master's [120] degree, allows to follow the English-speaking interuniversity programme giving the title of "Master in Nuclear Engineering" managed by BNEN (Belgian Nuclear Higher Education Network) (intensive courses

