

PHYS2M1

2013 - 2014

Master [60] in Physics

At Louvain-la-Neuve - 60 credits - 1 year - Day schedule - In frenchDissertation/Graduation Project : **YES** - Internship : **NO**Activities in English: **NO** - Activities in other languages : **NO**Activities on other sites : **NO**Main study domain : **Sciences**Organized by: **Faculté des sciences (SC)**Programme code: **phys2m1** - European Qualifications Framework (EQF): 7**Table of contents**

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PHYS2M1 - Introduction

PHYS2M1 - Admission

For the specific conditions of this program : refer to the French version

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

PHYS2M1 - Information

Learning outcomes

The programme for the 60 credit Master is designed to ensure students have knowledge of the fundamental laws and essential tools of modern physics. They will develop their intellectual and professional skills such as the ability to analyse a problem in physics, abstraction and modelling, rigour in reasoning and expression and a critical attitude.

Teaching method

The programme comprises basic courses, a dissertation and some courses chosen in consultation with the dissertation supervisor. The basic courses provide training in the theory but also an introduction to experimental methods and requirements. They are more advanced in nature than the introductory courses for the bachelor's degree.

Evaluation

Students will mainly be assessed on the basis of individual work (e.g. reading, consultation of databases and bibliographic references, writing monographs and reports, presentation of seminars and dissertation). Where necessary, students will also be assessed on how much they have learned from lectures. Assessment of the dissertation is done on the basis of work over the year and how it is presented both in written and oral form.

Possible trainings at the end of the programme

The only university training directly accessible from the 60 credit Master in Physics is teacher training (30 credits). It is also possible, in one year, to gain the 120 credit Master in Physics. This gives access to doctorates and Advanced Masters. Students' attention is drawn to the fact that this progression will require the submission of two dissertations and may require up to 15 credits for additional courses.

PHYS2M1 - Contacts

Curriculum Managment

Entite de la structure PHYS

Acronyme	PHYS
Dénomination	Ecole de physique
Adresse	Chemin du Cyclotron, 2 bte L7.01.04 1348 Louvain-la-Neuve Tél 010 47 32 94 - Fax 010 47 30 68
Site web	https://www.uclouvain.be/phys
Secteur	Secteur des sciences et technologies (SST)
Faculté	Faculté des sciences (SC)
Commission de programme	Ecole de physique (PHYS)

Jury

Secrétaire : **Philippe Ruelle**

Usefull Contacts

Secrétaire de l'Ecole de physique : **Roseline Van Dyck**

PHYS2M1 - Detailed programme

Programme structure

The programme of 60 credits includes 10 credits for compulsory courses, 20 credits for activities related to the dissertation, 4 credits for human sciences and 26 credits for courses to be chosen from a list of activities.

Core study

[> tronc commun](#) [en-prog-2013-phys2m1-lphys210t.html]

Programme by subject

Core courses [60.0]

○ Mandatory

△ Courses not taught during 2013-2014

⊕ Periodic courses taught during 2013-2014

⊗ Optional

⊙ Periodic courses not taught during 2013-2014

‡ Two years course

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

○ Mandatory courses (10 credits)

Les étudiants ayant déjà suivi certains de ces cours obligatoires suivront d'autres cours de crédits équivalents puisés dans la liste des cours de base et des cours au choix du programme du master 120.

○ LPHY1342	Etat solide	Giacomo Bruno, Christophe Delaere	30h+20h	5 Credits	2q
○ LPHY2372	Experimental methods	Krzysztof Piotrkowski, Xavier Urbain	30h+15h	5 Credits	1q

○ Activities linked to the individual final project (20 credits)

○ LPHY2995	Mémoire	N.		18 Credits	
○ LPHY2998	Thesis tutorial	Jan Govaerts, Annick Sonck	15h	2 Credits	1q

○ Philosophie (un des trois cours suivants) : (2 credits)

⊗ LSC2001	Introduction to contemporary philosophy	Nathalie Frogneux	30h	2 Credits	2q △
⊗ LSC2220	Philosophy of science	Alexandre Guay	30h	2 Credits	2q
○ LFILO2003E	Ethics in the Sciences and technics (sem)	N.		2 Credits	

○ Basics courses (28 credits)

The students have to choose 28 credits minimum between the following courses

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⊗ LPHY2110	Phénomènes critiques (théorie statistique des champs)	Philippe Ruelle	22.5h	4 Credits	1q
⊗ LPHY2120	Théorie quantique des champs I (introduction)	Jean-Marc Gérard	22.5h	4 Credits	1q
⊗ LPHY2130	Physique nucléaire I et physique du neutron	Thierry Delbar	45h	6 Credits	1q
⊗ LPHY2121	Interactions fondamentales	Jean-Marc Gérard	22.5h	4 Credits	1q

⊗ LPHY2131	Physique des particules élémentaires I	Christophe Delaere, Vincent Lemaitre	22.5h+7.5h	5 Credits	1q
⊗ LPHY2140	Photons, atoms and molecules	André Nauts, Xavier Urbain	30h	5 Credits	1q
⊗ LPHY2141	Optique et lasers	Alain Cornet	30h+10h	5 Credits	1q
⊗ LPHY2150	Physique et dynamique de l'atmosphère et de l'océan I	Michel Crucifix, Thierry Fichet	45h+9h	6 Credits	1q
⊗ LPHY2160	Internal Geophysics of the Earth and planets	Nicolas Bergeot, Véronique Dehant (coord.), Pascal Rosenblatt	30h	5 Credits	1q

