FYAP2M - Introduction

Introduction

Introduction

The Master’s degree programme in Physical Engineering is multidisciplinary due to the in-depth study of various fields pertaining to

				Year 1	2
LEPL2020	Professional integration work *The modules of LEPL2020 course are organized over the two annual blocks of the master's degree. It is strongly recommended that students take them from year 1, but they will only be able to register for the course at the earliest the year in which they present their final graduation project.* *Students who have other professional integration activities in their personal programme, or who can demonstrate an equivalent activity could be exempted from this course. This equivalence is at the discretion of the examination board. Another activity should then be chosen to reach the number of ECTS required for their graduation.*		EN [q1+q2] [30h+15h] [2 Credits] Δ > *French-friendly*	x	x
LELEC1755	Physics of electronic devices and transmission lines	Denis Flandre (coord.) Claude Oestges			

PROFESSIONAL FOCUS [30.0]

- Mandatory
- Optional
- Not offered in 2024-2025
- Not offered in 2024-2025 but offered the following year
- Offered in 2024-2025 but not the following year
- Not offered in 2024-2025 or the following year
- Activity with requisites
- Open to incoming exchange students
- Not open to incoming exchange students
- [FR] Teaching language (FR, EN, ES, NL, DE, ...)

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

Content:

				Year 1	Year 2
LMAPR2014	Physics of Functional Materials	Xavier Gonze Luc Piraux Samuel Poncé Gian-Marco Rignanese	[EN] [q1] [37.5h+22.5h] [5 Credits] *> French-friendly*	x	
LMAPR2451	Atomistic and nanoscopic simulations	H22.417 33.0017 Tm [(H2 -1 0.105 10.77BT /F1 6.944 Tf 1 0 0 -1 6 9.45499u7 mophe			

[redacted]ONS

Dans la rubrique "Options du master ingénieur civil physicien", l'étudiant·e doit valider au moins une des options proposées. Dans la rubrique "Options et cours au choix en connaissances socioéconomiques", l'étudiant·e valide une des deux options ou choisit obligatoirement au minimum 3 crédits parmi les cours au choix ou les cours de l'option en enjeux de l'entreprise.

Majors for the Master's degree in physics

> Major in Advanced Engineering Physics *[en-prog-2024-fyap2m-lfyap221o]*
> Major in nanotechnology *[en-prog-2024-fyap2m-lfyap225o]*
> Major advanced electronic materials and devices *[en-prog-2024-fyap2m-lfyap223o]*

Options et cours au choix en connaissances socio-économiques

> Business risks and opportunities *[en-prog-2024-fyap2m-lfyap230o]*
> Major in Interdisciplinary Program in Entrepreneurship - INEO *[en-prog-2024-fyap2m-lfyap231o]*
> Cours au choix en connaissances socio-économiques *[en-prog-2024-fyap2m-lfyap200o]*

Others elective courses

> Others elective courses *[en-prog-2024-fyap2m-lfyap952o]*

MAJORS FOR THE MASTER'S DEGREE IN PHYSICS

MAJOR IN ADVANCED ENGINEERING PHYSICS

- O Mandatory
- ⊠ Optional
- △ Not offered in 2024-2025
- ⊘ Not offered in 2024-2025 but offered the following year
- ⊕ Offered in 2024-2025 but not the following year
- △ ⊕ Not offered in 2024-2025 or the following year
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Click on the course title to see detailed informations (objectives, methods, evaluation...)

From 20 to 30credit(s)

				Year 1	Year 2
O *Content:*					
⊠ Optics and photonics					
⊠ LPHYS2141	Introduction to quantum optics	Matthieu Génévriez Xavier Urbain	EN [q1] [22.5h+7.5h] [5 Credits] *> French-friendly*	x	x
⊠ LPHYS2246	Experimental methods in atomic and molecular physics		EN [q2] [30h] [5 Credits] *> French-friendly*	x	x
⊠ Experimental methods					

MAJOR IN NANOTECHNOLOGY

OPTIONS ET COURS AU CHOIX EN CONNAISSANCES SOCIO-ÉCONOMIQUES [3.0]

MAJOR IN INTERDISCIPLINARY PROGRAM IN ENTREPRENEURSHIP - INEO

Commune à la plupart des masters de l'EPL, cette option a pour objectif de familiariser l'étudiant·e avec les spécificités de l'entreprenariat et de la création d'entreprise afin de développer chez lui les aptitudes, connaissances et outils nécessaires à la création d'entreprise.

Cette option rassemble des étudiants de différentes facultés en équipes interdisciplinaires afin de créer un projet entrepreneurial. La formation interdisciplinaire en entrepreneuriat (INEO) est une option qui s'étend sur 2 ans et s'intègre dans plus de 30 Masters de 9 facultés/écoles de l'UCLouvain. Le choix de l'option INEO implique la réalisation d'un mémoire interfacultaire (en équipe) portant sur un projet de création d'entreprise. L'accès à cette option, ainsi qu'à chacun des cours, est limité aux étudiant·es sélectionnés sur dossier. Toutes les informations sur https://uclouvain.be/fr/etudier/ineo.

L'étudiant.e qui choisit de valider cette option doit sélectionner au minimum 20 crédits et au maximum 25 crédits. Cette option n'est pas accessible en anglais et ne peut être prise simultanément avec l'option « Enjeux de l'entreprise ».

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Content:

				Year 1	Year 2
Required courses					
LINEO2001	Théorie de l'entrepreneuriat	Frank Janssen	FR [q1] [30h+20h] [5 Credits]	x	
LINEO2002	Aspects juridiques, économiques et managériaux de la création d'entreprise	Yves De Cordt Marine Falize	FR [q1] [30h+15h] [5 Credits]	x	
LINEO2003	Plan d'affaires et étapes-clefs de la création d'entreprise *Les séances du cours LINEO2003 sont réparties sur les deux blocs annuels du master. L'étudiant doit les suivre dès le bloc annuel 1, mais ne pourra inscrire le cours que dans son programme de bloc annuel 2.*	Frank Janssen	FR [q2] [30h+15h] [5 Credits]		x
LINEO2004	Séminaire d'approfondissement en entrepreneuriat	Frank Janssen	FR [q2] [30h+15h] [5 Credits]	x	
Prerequisite courses					
Student who have not taken management courses during their previous studies must enroll in LINEO2021.					
LINEO2021	Financer son projet	Philippe Grégoire Olivier Vercruysse	FR [q2] [30h+15h] [5 Credits]	x	

COURS AU CHOIX EN CONNAISSANCES SOCIO-ÉCONOMIQUES

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			Year 1	Year 2
Isabelle Demeulenaere (coord.)	⛒ LNEE [redacted] r of Entry to professional life in Dutch - Intermediate	Isabelle Demeulenaere (coord.)		

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

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FYAP2M - 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.

			degree may have an adapted master programme.
Bachelor in Engineering	For others institutions	Access based on application	See personalized access

Non university Bachelors

> Find out more about links to the university

Holders of a 2nd cycle University degree

Diploma	Special Requirements	Access	Remarks
"Licenciés"			

Masters		
Master in engineering		Direct access

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.

The first step of the admission procedure requires to submit an application online: https://uclouvain.be/en/study/inscriptions/futurs-etudiants.html

Selection criteria are summarized here (contact : epl-admission@uclouvain.be).

Admission and Enrolment Procedures for general registration

Teaching method

Methods that promote multidisciplinary studies

The Master's degree programme in physical engineering is interdisciplinary because acts as an interface between physics and materials science. Its versatile foundation exposes students to the wide scope of applied physics from practical training and cutting edge research to majors in the main branches of physics and materials science: nano-technologies, materials science, photovoltaics, fundamental and applied physics and light-matter interaction. Students also have the possibility of studying management thanks to majors in management and small and medium sized business creation. The programme includes a significant portion of the classes with the PHYS (or PHY) designation as well as MATH, INMA and MECA classes, which is evidence of the programme's multidisciplinary nature. Finally students are allowed to select up to 40 credits of elective courses offered as part of the programmes in natural sciences or

Possible trainings at the end of the programme

Master's degree programmes

The Advanced Master in Nanotechnologies and the Advanced Master in Nuclear Engineering of the M.A. in physical engineering.

Doctoral degree programmes

The Master's degree programme in physical engineering prepares students for doctoral programmes. The programme's professors are members of the MAIN ("Materials, Interfaces and Nanotechnology) doctoral programme and interested students are welcome to pursue a doctoral degree.

UCLouvain Master's degrees (about 60) are accessible to UCLouvain Master's degree holders

For example:

- Different Master's degree programmes in management (automatic admission based on written application).
- The Master [60] in Information and Communication at Louvain-la-Neuve or the Master [60] in Information and Communication at Mons

Contacts

Curriculum Management

Entity

Structure entity	SST/EPL/FYKI
Denomination	(FYKI)
Faculty	Louvain School of Engineering (EPL)
Sector	Sciences and Technology (SST)
Acronym	FYKI
Postal address	Place Sainte Barbe 2 - bte L5.02.02 1348 Louvain-la-Neuve Tel: +32 (0) 10 47 24 87 - Fax: +32 (0) 10 47 40 28

Academic supervisor: Pascal Jacques

Jury

- Président du Jury: Claude Oestges
- Secrétaire du Jury: Pascal Jacques

Useful Contact(s)

- Tel: 010/47.96.23: Vinciane Gandibleux