UCLouvain

UCLouvain Study programme 2019 - 2020

Specialization track in applied Chemestry and Physics

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Introduction

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The aim of this track is to enable the students to build a broad knowledge skills base in applied chemistry and physics (including thermodynamics and kinetics) opening avenues to the main fields of chemical and environmental engineering, advanced materials engineering, as well as physical engineering. The acquired skills cover a wide range of physical scales, from atomic to macroscopic and industrial dimensions, and prepare to the professions of the engineering master in chemistry and materials science swell as the master in physical engineering (chemical and environmental engineering, sustainable chemistry and energy, nanotechnology, (nano)electronics, optics, advanced materials including biomaterials, sensors and transducers, etc.).

Teaching profile

Learning outcomes

Detailled programme

PROGRAMME BY SUBJECT

O Mandatory	⊠ Optional
△ Courses not taught during 2019-2020	⊘ Periodic courses not taught during 2019-2020
⊕ Periodic courses taught during 2019-2020	Activity with requisites

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

O Contenu:

						Year 2	Year 3
O LMAPR1805	Introduction to materials science	Jean-Christophe Charlier Pascal Jacques Bernard Nysten Thomas Pardoen (coord.)	30h+30h	5 Credits	2q	x	
O LMECA1901	Continuum mechanics.	Philippe Chatelain Issam Doghri Olivier Lamberts (compensates Issam Doghri)	30h+30h	5 Credits		x	
O LMAPR1491	Statistical & quantum physics	Jean-Christophe Charlier Xavier Gonze (coord.) Luc Piraux Gian-Marco Rignanese	30h+30h	5 Credits	1q		x
O LMAPR1230	Organic chemistry	Sophie Demoustier Benjamin Elias Charles-André Fustin (compensates Benjamin Elias) Denis Mignon	45h+15h	5 Credits	2q △		x
O LMAPR1400	Cinétique et thermodynamique	Juray De Wilde (coord.) Denis Mignon	30h+30h	5 Credits	1q		x
O LMAPR1492	Materials physics	Jean-Christophe Charlier Xavier Gonze (coord.) Luc Piraux Gian-Marco Rignanese	37.5h +22.5h	5 Credits	2q		x

COURSE PREREQUISITES

A document entitled (nb: not available for this programme lfyki100p) specifies the activities (course units - CU) with one or more pre-requisite(s) within the study programme, that is the CU whose learning outcomes must have been certified and for which the credits must have been granted by the jury before the student is authorised to sign up for that activity.

These activities are identified in the study programme: their title is followed by a yellow square.

As the prerequisites are a requirement of enrolment, there are none within a year of a course.

The prerequisites are defined for the CUs for different years and therefore influence the order in which the student can enrol in the programme's CUs.

In addition, when the panel validates a student's individual programme at the beginning of the year, it ensures the consistency of the individual programme:

- It can change a prerequisite into a corequisite within a single year (to allow studies to be continued with an adequate annual load);
- It can require the student to combine enrolment in two separate CUs it considers necessary for educational purposes.

For more information, please consult regulation of studies and exams (https://uclouvain.be/fr/decouvrir/rgee.html).

THE PROGRAMME'S COURSES AND LEARNING OUTCOMES

For each UCLouvain training programme, a reference framework of learning outcomes specifies the competences expected of every graduate on completion of the programme. You can see the contribution of each teaching unit to the programme's reference framework of learning outcomes in the document *"In which teaching units are the competences and learning outcomes in the programme's reference framework developed and mastered by the student?"*

Information

Liste des bacheliers proposant cette mineure

> Bachelor in Engineering *[en-prog-2019-fsa1ba]*

Admission

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".