UCL Study programme

2013 - 2014

Minor in Engineering Sciences : Applied Chemistry and Physics

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Introduction

Admission

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

Information

Learning outcomes

The main objective of the " polytechnic " minors organized by the Faculté des Sciences Appliquées is for a student taking the engineering science baccalaureate, should s/he so wish, to acquire, via a major/minor polytechnic combination, basic training in two specialist areas of engineering science, and thus to broaden his/her range of technical skills, or to prepare for a master's in engineering science which spans the basic courses offered at baccalaureate level. .

The disciplinary objectives of the minor in applied chemistry and physics are to help the student, as part of a multidisciplinary training program :gain a deeper understanding and develop his/her basic skills in chemistry and physics (including thermodynamics), acquainting him/herself with the main application of chemical and environmental engineering, engineering of advanced materials and applied physics; get to grips with the mathematical formalisms used in applied physics and in chemical engineering. There are various phases to the course, starting with the atomic dimensions of the course and leading on to the macroscopic and industrial areas, and it provides an insight into the areas in which a chemical engineer or physicist works (biotechnology, nanotechnology, electronics, optics, advanced materials (polymers, ceramics, metals, composites) sensors and transducers, reactors, etc).

Possible trainings at the end of the programme

Polytechnic minors provide students who have performed well and acquired a bachelor's qualification in engineering science-civil engineering, as part of a program which includes one of these minors, with unconditional access without further training to the master's in civil engineering which corresponds to this minor. For the minor in applied chemistry and physics: the master's in civil engineering in chemistry and material science and the master's in physicist-civil engineering. For the minor in construction: the master's in civil engineering in construction For the minor in electricity: the master's in electrician civil engineer For the minor in IT: the master's in IT civil engineer For the minor in mechanics: the master's in mechanic-civil engineer For the minor in applied mathematics: the master's in civil engineer in applied mathematics For a program which combines a major in electricity/minor in mechanics or major in mechanics/ minor in electricity: the master's in electromechanical/civil engineering.

Contacts

Curriculum Managment

Entite de la structure FYKI

Acronyme	**FYKI**
Dénomination	Commission de programme - Ingénieur civil en chimie et sciences des matériaux et ingénieur civil physicien
Adresse	Place Sainte Barbe, 2 bte L5.02.02
	1348 Louvain-la-Neuve
	Tél 010 47 24 87 - Fax 010 47 40 28
Secteur	Secteur des sciences et technologies (SST)
Faculté	Ecole Polytechnique de Louvain (EPL)
Commission de programme	Commission de programme - Ingénieur civil en chimie et sciences des matériaux et ingénieur civil physicien (FYKI)

Academic Supervisor : Christian BAILLY

Jury

Président du Jury : **Piotr SOBIESKI**

Usefull Contacts

Secrétariat : **Viviane ABEELS**

Detailled programme

PROGRAMME BY SUBJECT

O Mandatory	⊠ Optional
△ Courses not taught during 2013-2014	⊘ Periodic courses not taught during 2013-2014
⊕ Periodic courses taught during 2013-2014	⧺ Two years course

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

O Cours obligatoires de la mineure en chimie et physique appliquées (25 credits)

						Year 2	Year 3
O LMAPR1230	Organic chemistry	Sophie Demoustier, Benjamin Elias	30h+15h	4 Credits	2q	x	
O LMAPR1231	Process in inorganic chemistry	Pascal Jacques, Joris Proost	30h+30h	5 Credits	2q		x
O LMAPR1310	Thermodynamics of phase equilibrium	Francis Delannay, Denis Mignon	22.5h +7.5h	3 Credits	2q	x	
O LMAPR1491	Statistical & quantic physics	Jean-Christophe Charlier, Xavier Gonze, Luc Piraux, Gian-Marco Rignanese (coord.)	30h+30h	5 Credits	1q		x
O LMAPR1492	Materials physics	Jean-Christophe Charlier, Xavier Gonze, Luc Piraux, Gian-Marco Rignanese (coord.)	37.5h +22.5h	5 Credits	2q		x
O LMAPR1805	Introduction to materials science	Jean-Christophe Charlier, Bernard Nysten, Thomas Pardoen	30h	3 Credits	2q	x	

⊠ Variante générale de la mineure en chimie et physique appliquées (5 credits)

Les étudiants autres que ceux inscrits en majeure en électricité ou informatique complètent leur programme avec le cours suivant

O LMAPR1400	Physical & Chemical Kinetics	Christian Bailly, Juray De Wilde (coord.)	30h+30h	5 Credits	1q		x

⊠ Variante pour les étudiants inscrits en majeure en électricité ou informatique (5 credits)

Les étudiants inscrits en majeure en électricité ou informatique complètent leur programme avec le cours suivant

O LMECA1901	Continuum mechanics.	Philippe Chatelain, Emilie Marchandise	30h+30h	5 Credits	1q		x

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