CHIM2 Licence en sciences chimiques (Diploma of the Second Cycle (Licence) in Chemical Sciences)

Programme management

CHIM Département de chimie
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Admission procedure

The regular conditions and admission procedures are detailed on the web page "Access to Studies" : http://www.ucl.ac.be/etudes/libres/acces.html

Programme content

"Options" and "free choice" courses
Registration for the options and free choice courses must be approved by the Chemistry Department before the end of the third week of each quadrimester. This registration will then be handed in to the secretary's office of the Faculty and the jury secretary. The specific practical procedures relating to the "licence" options and the thesis, not detailed below, are established by the Chemistry Department and made known to the students.

CHIM21 First year

1. Compulsory courses

SC2140	Questions of religious sciences[15h] (1 credits)1q (in French)	José Reding

This cours will be followed in the 1st or 2nd year.

CHIM2130	A préciser (in French)	
CHIM2131	A préciser (in French)	
CHIM2140	A préciser (in French)	
CHIM2141	A préciser (in French)	
CHIM2151	A préciser (in French)	
CHIM2152	A préciser (in French)	
CHIM2154	A préciser (in French)	
CHIM2155	A préciser (in French)	
CHIM2161	A préciser (in French)	
CHIM2162	A préciser (in French)	
CHIM2230	A préciser (in French)	
CHIM2231	A préciser (in French)	

The students who do not take or do not pass the oral expression test in English will do the following course :

ANGL2463	Anglais-expression orale pour les chimistes[30h] (2 credits)1+2q	Colleen Starrs

2. Options

The students will follow, among others, an option chosen from the list below :

CHIM2135	Complements of inorganic chemistry[22.5h] (2.5 credits) (in French)	Michel Devillers
CHIM2181	Quantum chemistry I[22.5h+0h] (2 credits) 1q (in French)	Daniel Peeters
CHIM2191	Chimie organique de synthèse I[22.5h+0h] (2.5 credits) 1q (in French)	N.
CHIM2195	A préciser (in French)	

CHIM2201	Applied chemical kinetics[22.5h+0h] (2.5 credits) Δ 2q (in French)	Jacques Vandooren
CHIM2211	Combustion physicochemistry I[22.5h+0h] (2.5 credits) Δ 1q (in French)	Jacques Vandooren
CHIM2251	Physical organic chemistry I[22.5h+0h] (2.5 credits) Δ 2q (in French)	Olivier Riant
CHIM2321	Applied organic chemistry I[22.5h+0h] (2 credits) Δ 1q (in French)	N.
CHIM2340	Radio cristallography[22.5h+15h] (2.5 credits) Δ 2q (in French)	Jean-Paul Declercq

[partim : 22.5 hours]

CHIM2380	Complements of biochemistry I[22.5h] (2.5 credits) Δ 1q (in French)	N.
CHIM2382	Enzymology and biotechnology I[22.5h] (2.5 credits) Δ 1q (in French)	Jacques Fastrez
CHIM2471	Nuclear chemistry[22.5h+0h] (2 credits)1q (in French)	Jean Ladrière

[partim : 22.5 hours]

The seminars relating to the courses are not given in the first year.

CHIM22 Second year

A. Thesis

The students will present a thesis (CHIM 2999) on a topic relating to general chemistry, analytical chemistry or physical chemistry. The choice of a thesis director must be approved by the Chemistry Departement by the end of the third week of the 1st quadrimester of the 2nd year of studies. The preparation of the thesis is equivalent to around 600 course attendance hours. The readers of the thesis are appointed by the Chemistry Department one month before the end of the 2nd quadrimester of the second year of studies. The list of the thesis readers will be communicated to the jury secretary.

B. Courses

1. Philosophical teachings

SC2001	Introduction to contemporary philosophy[30h] (2 credits)2q (in French)	Mark Hunyadi
or		
SC2220	Philosophy of science[30h] (2 credits)2q (in French)	Michel Ghins
or		
FILO2003	Ethics in the Natural Sciences[15h+15h] (2 credits)2q (in French)	Philippe Baret, Bernard Feltz, Thierry Hance

2. Course on Religious Sciences

SC2140	Questions of religious sciences[15h] (1 credits)1q (in French)	José Reding

This course will be followed according to choice, in the 1st or 2nd year.

3. Language course

CHIM2998	Thesis tutorial[30h] (2 credits) (in English)	Yves-Jacques Schneider (coord.), Annick Sonck (coord.)

4. Orientations

The students will have to follow a minimum of 225 hours of courses and carry out a piece of research work in one of the five following orientations : biochemistry, inorganic and analytical chemistry, organic chemistry, physical chemistry or macromolecular chemistry. The 225 hours of courses will obligatorily comprise all of the courses which constitute the core syllabus of the orientation in which the thesis is carried out, excluding those courses already followed in the first year. The students who do a thesis in an interdisciplinary subject may, with the agreement of the Department, obtain derogations for some of the compulsory courses.

a. Biochemistry orientation

CHIM2380	Complements of biochemistry I[22.5h] (2.5 credits) Δ 1q (in French)	N.
CHIM2381	Complements of biochemistry II[22.5h] (2.5 credits) Δ 1q (in French)	Yves-Jacques Schneider
CHIM2382	Enzymology and biotechnology I[22.5h] (2.5 credits) Δ 1q (in French)	Jacques Fastrez
CHIM2383	Enzymology and biotechnology II[22.5h+0h] (2.5 credits)2q (in French)	Patrice Soumillion

CHIM2195	A préciser (in French)	
one of the two following courses, according to choice :		
BIOL2137	A préciser (in French)	
GEMO2110	Génétique moléculaire médicale[30h] (2 credits) (in French)	Christine Dumoulin
b. Inorganic and Analytical Chemistry orientation		
CHIM2135	Complements of inorganic chemistry[22.5h] (2.5 credits) Δ (in French)	Michel Devillers
CHIM2223	Analytical chemistry I[22.5h] (2.5 credits) Δ 1q (in French)	Patrick Bertrand, Yann Garcia (coord.)
CHIM2224	Analytical chemistry II[22.5h] (2.5 credits) Δ 2q (in French)	Yann Garcia
CHIM2242	Chemistry of inorganic solids[22.5h+0h] (2.5 credits) Δ 1q (in French)	Michel Devillers
CHIM2291	Complements of physical chemistry[22.5h+0h] (2.5 credits) Δ 1q (in French)	Daniel Peeters
CHIM2195	A préciser (in French)	
c. Organic Chemistry orientation		
CHIM2191	Chimie organique de synthèse I[22.5h+0h] (2.5 credits) Δ 1q (in French)	N.
CHIM2192	Chimie organique de synthèse II[22.5h+0h] (2.5 credits) Δ 1q (in French)	Olivier Riant
CHIM2321	Applied organic chemistry I[22.5h+0h] (2 credits) Δ 1q (in French)	N.
CHIM2322	Applied organic chemistry[22.5h+0h] (2.5 credits) Δ 1q (in French)	Istvan Marko
CHIM2251	Physical organic chemistry I[22.5h+0h] (2.5 credits) Δ 2q (in French)	Olivier Riant
CHIM2310	Photochemistry[22.5h] (2.5 credits) Δ (in French)	Jean-Philippe Soumillion
CHIM2195	A préciser (in French)	
d. Physical Chemistry orientation		
CHIM2181	Quantum chemistry I[22.5h+0h] (2 credits) Δ 1q (in French)	Daniel Peeters
CHIM2202	Applied polymer chemistry II[22.5h+0h] (2.5 credits) Δ 1q (in French)	Jacques Vandooren
CHIM2281	Complements of spectroscopy[22.5h] (2.5 credits) Δ 1q (in French)	Jean-Louis Habib Jiwan
CHIM2291	Complements of physical chemistry[22.5h+0h] (2.5 credits) Δ 1q (in French)	Daniel Peeters
CHIM2195	A préciser (in French)	
e. Macromolecular orientation		
CHIM2202	Applied polymer chemistry II[22.5h+0h] (2.5 credits) Δ 1q (in French)	Jacques Vandooren
CHIM2261	Chimie macromoléculaire I[22.5h] (2.5 credits) Δ (in French)	Jean-François Gohy
CHIM2262	Macromolecular chemistry II[22.5h] (2.5 credits) Δ (in French)	Jean-François Gohy
MAPR2392	Physics of polymeric materials[30h+30h] (5 credits)1q (in French)	Christian Bailly, Sophie Demoustier, Jacques Devaux, Pierre Godard, Alain Jonas, Roger Legras (coord.), Roger Legras (supplée Alain Jonas), Bernard Nysten
MAPR2452	Physical statistic and macromolecular physics and chemistry[30h+15h] (4 credits)1q (in French)	Christian Bailly, Sophie Demoustier, Jacques Devaux, Jacques Devaux (supplée Alain Jonas), Pierre Godard, Alain Jonas, Roger Legras (coord.), Bernard Nysten

4. Options

Besides the courses which constitute the core syllabus specific to each orientation, the students wil choose a certain number of options with a view to attaining a global minimum timetable volume of 225 hours. These courses will be selected :

- either from among the courses listed on the core syllabus of the other orientations,
- or from the options listed below,
- or, in agreement with their thesis director, from the other courses featuring on the University programmes.

The choice cannot, in any circumstances, include a course which the student has already been examined on in the first year.
The students are highly recommended to extend their choice to the courses of the other orientations in the second year.

CHIM2182	Quantum chemistry II[22.5h+0h] (2.5 credits) Δ 1q (in French)	Daniel Peeters
CHIM2201	Applied chemical kinetics[22.5h+0h] (2.5 credits) Δ 2q (in French)	Jacques Vandooren
CHIM2211	Combustion physicochemistry I[22.5h+0h] (2.5 credits) Δ 1q (in French)	Jacques Vandooren
CHIM2212	Combustion physicochemistry II[22.5h+0h] (2.5 credits) Δ 2q (in French)	N.
CHIM2252	Chimie organique physique II[22.5h+0h] (2.5 credits) Δ 1q (in French)	N.
CHIM2282	Complements of NMR[22.5h+0h] (2.5 credits) Δ 1q (in French)	Karim Snoussi
CHIM2292	Complements of groups theory and strutural chemistry[22.5h+0h] (2.5 credits) Δ 2q (in French)	Jean-Paul Declercq
CHIM2340	Radio cristallography[22.5h+15h] (2.5 credits) Δ 2q (in French)	Jean-Paul Declercq
[partim : 22.5 hours]		
CHIM2471	Nuclear chemistry[22.5h+0h] (2 credits)1q (in French)	Jean Ladrière
[partim : 22.5 hours]		
CHIM2472	Radiochemistry[22.5h] (2.5 credits) (in French)	Jean Ladrière
BRTE2201	Human and animal toxicology[22.5h] (2 credits)1q (in French)	Alfred Bernard
BIOL2131	A préciser (in French)	
[partim : 30-15 hours]		
BIOL2134	A préciser (in French)	
BIOL2211	Microbial genetics[30h+15h] (3.5 credits)2q (in English)	Anne-Marie Corbisier, Bernard Hallet
BIR1319	Colloïdal and surface chemistry[30h] (2.5 credits)2q (in French)	Christine Dupont, Paul Rouxhet
BRNA2103	Chemistry of solids[37.5h+0h] (3 credits)2q (in French)	Eric Gaigneaux
BRMC2101	Genetic engineering[22.5h+15h] (3 credits)2q (in French)	Marc Boutry
BIRC2103	Molecular biology and concepts of genetic engineering[22.5h+22.5h] (3.5 credits)1q (in French)	Marc Boutry, François Chaumont
ENVI3012	Pollution de l'environnement[60h+15h] (6 credits)2q (in French)	Bruno Delvaux, Patrick Gerin (coord.), Nathalie Kruyts (supplée Bruno Delvaux), Claude Ronneau
BRNA2103	Chemistry of solids[37.5h+0h] (3 credits)2q (in French)	Eric Gaigneaux