

Faculty of Medicine



TOX 2

Licence en sciences biomédicales (toxicologie) (Diploma of the Second Cycle (Licence) in Biomedical Sciences (Toxicology))



Programme management

CTOX Commission de toxicologie médicale

Academic Supervisors : Pierre Wallemacq et Philippe Hantson

Tel. 02 764 17 34

E-mail : wallemacq@lbcm.ucl.ac.be

Contact person : Elisabeth Coppe

Tel. 02 764 50 34

E-Mail: coppe@smd.ucl.ac.be

Specific study objectives for the programme in Biomedical Sciences, orientation : Toxicology

The studies in Toxicology develop skills fostering the comprehension and prevention of toxicity from chemical substances used by man or arising from man's activities.

For all complementary information concerning these studies, please address the president of the programme management committee or the secretary's office of the school (c.f. contact numbers below).

Admission conditions for the degree programmes in Biomedical Sciences

The degree programmes (second university study cycle or "licence") are accessible to the following students :

- holders of the "candidat" diploma in Biomedical Sciences, Medecine, Pharmaceutical Sciences, Dental Sciences, Agronomic Sciences and Sciences (Biological, Chemical and Veterinary), from a Belgian or a Luxembourg university;
- holders of a university diploma judged to be equivalent in domains other than those mentioned above subject to analysis of the application ;
- holders of a non-university higher diploma ("gradu ") in chemistry, clinical chemistry, medical biology or dietetics subject to passing an admission exam and adding a possible complement of studies for 150 hours maximum ;
- those who have passed the first two years of the "candidature" in medecine, subject to the approval of the Committee of Biomedical Sciences and a complement of studies.

Admission procedure

The admission procedures and inscription at the University are detailed in the "General Information" pamphlet of the study Programme.

General structure of the degree programmes in Biomedical Sciences

Some general important points of note :

- Each candidate must choose a *promoter* for himself with the help of the programme management Committee
- The *choice of courses*, both compulsory and optional will be established in common agreement with the promoter and submitted to the management committee for approval by 1st November, at the latest.
- With the approval of the Committee, courses given at UCL-Bruxelles and in Louvain-la-Neuve judged as being equivalent in terms of training may replace courses of this programme.
- With the agreement of the management committee, a student may choose one or another course during the first year and have the exam mark recognised in the form of a *capitalisable unit* during the course of the second year. For more information, students can contact the vice-president of the programme management committee.
- Depending on the first cycle completed, the student may benefit from *dispensations* for certain courses (equivalent to 60 hours maximum) or, on the contrary, have one or another *complement* imposed on him by the management committee.
- For students admitted in the 1st year on the basis of having passed the 2nd year "candidature" in Medecine, the complements of the following subjects are imposed : mathematics (SBIM1001), statistics (MED 2430 et ESP3420), biomedical instrumental analysis (SBIM 2100) and an apprenticeship in a laboratory (SBIM9212).

Programme content**TOX21 First year of studies****Molecular approach**

BCHM1121 Biochimie humaine normale et pathologique[60h+16h] (8 credits) (in French) Louis Hue, Frédéric Lemaigre

FARM2151 Medical Biochimie[30h+30h] (in French) Teresinha Leal, Marianne Philippe, Marie-Françoise Vincent, Pierre Wallemacq (coord.)

FARM2182 Molecular genetics of the procaryotes and concepts of genetic engineering[30h+15h] (4 credits) (in French) Etienne De Plaen, Jean-Noël Octave (coord.)

Functional approach

DENT1260 Physiologie humaine[45h+15h] (6 credits) (in French) Sonia Brichard, Nicole Morel

FARM2290 General pathophysiology[30h] (3 credits) (in French) Olivier Feron, Michel Lambert (coord.)

INTR3620 Physiopathologie des intoxications[30h] (3 credits) (in French) Philippe Hantson

[partim 1st part :15 hours]

Morphological approach

ISTO1301 Normal histology of systems (part 2)[15h+25h] (4 credits) (in French) Idesbald Colin (supplée Jean-François Deneff), Jean-François Deneff, Marie-Christine Many (coord.), Jean-Marie Scheiff

[partim]

Xenobiotic approach

FARM2144 General Pharmacology[30h+15h] (3.5 credits) (in French) Josiane Burton, Emmanuel Hermans, Roger-K. Verbeeck

[partim general part : 30h]

FARM2145 Metabolism of the xénobiotiques ones[15h+22.5h] (3 credits) (in French) Pedro Buc Calderon (coord.), Yves Horsmans, Roger-K. Verbeeck

FARM2272 Toxicology[30h] (3 credits) (in French) Pedro Buc Calderon

PHAR2130 Medical Toxicology[22.5h] (3 credits) (in French) Philippe Hantson

Quantitative approach

ESP3142 Epidemiology[22.5h+7.5h] (3 credits) (in French) Fabienne Nackers, Annie Robert (coord.)

"Public Health or Human Sciences approach "

ESP3620 Santé et environnement: risques chimiques[15h+7.5h] (2 credits) (in French) Perrine Hoet

one of the 3 following courses, subject to enrolment at the secretary's office for Biomedical Sciences

MD2201 Christian ethics[15h] (2 credits) (in French) Philippe Goffinet

MD2202 Faith and reason[15h] (2 credits) (in French) N.

MD2203 Questions of Religious Sciences : The Bible and his Message[15h] (2 credits) (in French) Jean-Marie Van Cangh

and the following language course

ANGL2454 Interactive English[30h] (3 credits) Marc Piwnik, Albert Verhaegen

Options

30 hours minimum for the year, to be chosen with the agreement of the promoter and the programme management committee. The students coming from non-university higher studies ("graduat"), who have passed the entrance exam may find a supplement of 150 hours imposed on them, depending on their previous studies in the first or second study cycle, in agreement with the programme manager.

Apprenticeship

SBIM9212 Stage en laboratoire[30h] (3 credits) (in French) N.

Information concerning this apprenticeship is available at the secretary's office.

This apprenticeship takes place during the programme of the 2nd "candidature" in Biomedical sciences, but may be validated later, at the end of the 1st year of the "licence" at the latest.

Thesis

Voir TOX 22

TOX22 Second year of studies

Compulsory courses

<u>MDTR3211</u>	Toxicologie industrielle[15h] (2 credits) (in French)	Dominique Lison
<u>MDTR3212</u>	Aspects réglementaires en toxicologie[22.5h] (in French)	Dominique Lison, Harry Roels
<u>SBIM2199</u>	Sémiologie des intoxications[6h] (in French)	N.

Options

120 hours minimum for the year, to be chosen with the agreement of the promoter and that of the programme management committee.

Thesis

This thesis consists of a personal scientific piece of work in the domain of Toxicology, partly carried out in a laboratory of the Faculty of Medicine under the scientific responsibility of a permanent member of the academic or scientific personnel of UCL. The writing of the thesis involves at least 90 hours of seminars or work meetings and supervised practical work under the responsibility of the promoter. In the case where, further to the agreement of the management committee, the thesis were to be done in a different faculty, in a centre for non-university research or in industry, a member of the Faculty of Medicine would participate in the supervision thereof in the capacity of co-promoter.

The work for the thesis should start as from the first year of the "licence" programme (TOX21). The domain in which it is to be written will be communicated to the committee with the written agreement of the promoter, by 30 November of the first study year, at the latest.

Optional courses recommended for the TOX orientation**Molecular approach**

<u>BIOL2284</u>	Animal molecular and cellular biology[30h+15h] (3.5 credits) (in French)	Bernard Knoops, René Rezsohazy
<u>CHIM2223</u>	Analytical chemistry I[22.5h] (2.5 credits) (in French)	Patrick Bertrand, Yann Garcia (coord.)
<u>CHIM2224</u>	Analytical chemistry II[22.5h] (2.5 credits) (in French)	Yann Garcia
<u>FARM2143</u>	CHEMISTRY ANAL & ANALYZES INSTRUM[60h+180h] (15 credits) (in French)	Bernard Tilquin
<u>FARM2230</u>	Complement of instrumental analysis[30h+15h] (in French)	Bernard Tilquin
<u>GEMO2110</u>	Molecular and medical genetics[30h] (2 credits) (in French)	Christine Dumoulin
<u>SBIM2520</u>	Workshop of molecular genetics[40h] (3 credits) (in French)	Patrick Jacquemin, Patrick Jacquemin

Functional approach

<u>FARM3320</u>	Principe et méthodologie des dosages radioimmunologiques et radionucléidiques[15h+40h] (in French)	Diane Maisin, Marianne Philippe (coord.)
<u>INTR3620</u>	Physiopathologie des intoxications[30h] (3 credits) (in French)	Philippe Hantson

[partim 2nd part : 15 hours]

<u>MDTR3201</u>	Pathologie et clinique des maladies professionnelles[45h] (in French)	Perrine Hoet, Dominique Lison
-----------------	---	-------------------------------

Morphological approach

<u>MED2150</u>	Elements of forensic medicine[15h] (1 credits) (in French)	Frédéric Bonbled
----------------	--	------------------

Xenobiotical approach

<u>FARM2280</u>	Organotoxicity and cancer : molecular, cellular and functional aspects[30h+15h] (in French)	Pedro Buc Calderon, Olivier Feron, Philippe Hantson
<u>BRPP2203</u>	Phytopharmacy[22.5h] (2 credits) (in French)	Henri Maraite
<u>INTR2450</u>	Experimental toxicology related to food and nutrition[22.5h+15h] (3 credits) (in French)	Pedro Buc Calderon, Nathalie Delzenne
<u>PHAR2150</u>	Maladies pharmacothérapeutiques[15h] (2 credits) (in French)	Yves Horsmans
<u>ENVI3012</u>	Pollution de l'environnement[60h+15h] (6 credits) (in French)	Bruno Delvaux, Patrick Gerin (coord.), Nathalie Kruyts (supplée Bruno Delvaux), Claude Ronneau
<u>BRTE2201</u>	Human and animal toxicology[22.5h] (2 credits) (in French)	Alfred Bernard

Quantitative approach**Public Health and Human Sciences**

<u>FILO1220</u>	Epistemology 2: Introduction to philosophy of science[45h] (5 credits) (in French)	Tom Dedeurwaerdere, Tom Dedeurwaerdere (supplée N.), Bernard Feltz
<u>FILO2003</u>	Ethics in the Natural Sciences[15h+15h] (2 credits) (in French)	Philippe Baret, Bernard Feltz, Thierry Hance
<u>RPR2001</u>	Notions de base de radioprotection[10h+5h] (in French)	Vincent Grégoire (coord.), Patrick Smeesters
<u>RPR2002</u>	Compléments de radioprotection[20h+10h] (in French)	Philippe Clapuyt, François Jamar, Pierre Scalliet (coord.), Patrick Smeesters
<u>SEHY3102</u>	Contrôle de l'ambiance chimique de travail[15h] (in French)	Vincent Haufroid, Dominique Lison

(coord.), Christian Lucion

Course on methodology

SBIM3100 Elementary quantitative analysis[22.5h] (in French)

Bernard Tilquin

SBIM2111 Methodolgy of cell and molecular biology[22.5h] (3 credits)
(in French)

Pierre Courtoy (coord.), Emile Van
Schaffingen

BCMM3320 Pathological Histo- and Cytochemistry[30h] (in French)

Jean-François Deneff, Yves Guiot
(coord.), Jacques Rahier

(partim 22.5 hours)

Positioning of the degree within the University cursus

Besides the programmes of the 3rd cycle and the PhD, organised by the School of Biomedical Sciences, the graduate students in Biomedical Sciences also have access to the programmes organised in other schools or institutes, including the following :
- specialised study diploma in Sciences and Management of the Environment (ENVI3DS).