

**Cycle view of the study programme**

B1 Or Th Pr Au Cr

**Cours obligatoires de la finalité (B2 : 30Cr)**

L'étudiant(e) réalisera un stage professionnalisant d'une durée de 5 mois en Belgique ou à l'étranger

SSTG0057-1	<i>Professional placement (english language) - COLLÉGIALITÉ - [5mois Internship]</i>	B2	Q2	-	-	[+]	<b>28</b>
CHIM0754-1	<i>Preparation for employment - COLLÉGIALITÉ - [15h AUTR]</i>	B2	Q2	-	-	[+]	<b>2</b>

**Cours obligatoires du tronc commun (B1 : 45Cr, B2 : 15Cr)**

CHIM0724-1	<i>Organic chemistry (english language) - Thibault GENDRON, JeanChristophe MONBALIU</i>	B1	Q1	50	-	-	<b>5</b>
CHIM0726-1	<i>Emerging analytical approaches - Christian DAMBLON, AnneSophie DUWEZ, Gauthier EPPE, JeanFrançois FOCANT, Loïc QUINTON</i>	B1	Q1	50	-	-	<b>5</b>
CHIM0727-1	<i>Macromolecular and materials chemistry (english language) - Christine JÉRÔME, Bénédicte VERTRUYEN</i>	B1	TA	50	-	-	<b>5</b>
CHIM0728-1	<i>Design, structure and reactivity of chemical architectures - Lionel DELAUDE, AnneSophie DUWEZ</i>	B1	Q1	50	-	-	<b>5</b>
CHIM0729-1	<i>Biological chemistry (english language) - Christian DAMBLON, Loïc QUINTON</i>	B1	Q1	50	-	-	<b>5</b>
CHIM0746-1	<i>Nuclear chemistry and introduction to labeling and imaging techniques (english language) - Thibault GENDRON</i>	B1	Q2	50	-	-	<b>5</b>
SMEM0044-1	<i>Dissertation, Part A - COLLÉGIALITÉ</i>	B1	Q2	-	-	-	<b>15</b>
SMEM0044-2	<i>Dissertation, Part B - COLLÉGIALITÉ</i>	B2	Q1	-	-	-	<b>15</b>

**Cours au choix du tronc commun (B1 : 15Cr, B2 : 15Cr)**

Choose courses, with the approval of the Jury, totalling 30 credits among : (B1 : 15Cr, B2 : 15Cr)

**Language**

LANG4007-1	<i>English - oral expression (english language) - Clara BRERETON, Véronique DOPPAGNE</i>	-	Q2	-	25	-	<b>3</b>
LANG2971-2	<i>Academic English Writing (english language) - Clara BRERETON, Véronique DOPPAGNE</i>	-	Q1	25	-	-	<b>3</b>

**Industrial chemistry**

CHIM0074-2	<i>Seminars on industrial security - Angélique LÉONARD, Dominique TOYE - [2d FW]</i>	-	Q1	15	-	[+]	<b>3</b>
CHIM0022-3	<i>Transport phenomena, Part A (english language) - Andreas PFENNIG</i>	-	Q2	30	-	-	<b>3</b>
CHIM0683-2	<i>Green chemistry - Aurore RICHEL</i>	-	Q2	5	20	-	<b>3</b>
CHIM0699-2	<i>Life cycle assessment - Ecodesign (english language) - Angélique LÉONARD</i>	-	Q1	10	30	-	<b>3</b>
CHIM9322-2	<i>Industrial chemistry processes, Part 1 - the structure of the chemical industry - MarieNoëlle DUMONT, Angélique LÉONARD, Dominique TOYE</i>	-	Q2	28	-	-	<b>3</b>

**Synthesis and materials**

CHIM0745-1	<i>Physico-chemistry in non-aqueous solvents (english language) - Cédric MALHERBE</i>	-	Q2	25	-	-	<b>3</b>
CHIM0707-1	<i>Physical organic chemistry - JeanChristophe MONBALIU</i>	-	Q2	25	-	-	<b>3</b>
CHIM9265-1	<i>Introduction to continuous flow organic synthesis (english language) - JeanChristophe MONBALIU - [1d Vis.]</i>	-	Q1	15	10	[+]	<b>3</b>

CHIM0731-1	<i>Chemistry and physical-chemistry of peptide and protein assemblies</i> - JeanChristophe MONBALIU, Loïc QUINTON	-	Q1	25	-	-	3
CHIM0656-1	<i>Organometallic catalysis</i> - Lionel DELAUDE	-	Q1	25	-	-	3
CHIM0219-1	<i>Industrial polymers</i> - Christine JÉRÔME	-	Q2	25	-	-	3
CHIM9234-2	<i>Polymers and environment (english language)</i> - Part A - Philippe LECOMTE - Part B - Philippe LECOMTE	-	Q1	15	-	-	3
CHIM9230-1	<i>Nanomaterials: synthesis, properties and applications (english language)</i> - AnneSophie DUWEZ, Christine JÉRÔME, Damien SLUYSMANS	-	Q1	25	-	-	3
CHIM0742-1	<i>Chemistry of materials and sustainable development</i> - Catherine HENRIST - [0,5d Vis., 10h Mon. WS]	-	Q1	15	-	[+]	3
PHYS0999-1	<i>Digital creation in sciences</i> - Roland BILLEN, Valentin FISCHER, Pierre MATHONET, JeanChristophe MONBALIU, Eric PARMENTIER, Nicolas VANDEWALLE - [30h Proj.]	-	TA	10	-	[+]	6
<b>Techniques of characterization and analysis</b>							
BIOL0114-4	<i>Electronic microscopies, Part A</i>	-	Q2	15	-	-	3
CHIM9236-2	<i>Microstructure of materials : characterization techniques (Odd years)</i> - Part A - Catherine HENRIST - Part B - Catherine HENRIST	-	Q2	15	-	-	3
CHIM9264-1	<i>Electrical and magnetic properties of materials</i> - Bénédicte VERTRUYEN	-	Q1	15	10	-	3
CHIM0732-1	<i>Characterisation of surfaces and interfaces</i> - AnneSophie DUWEZ, Damien SLUYSMANS	-	Q1	25	-	-	3
CHIM0752-1	<i>Single-molecule approaches in biology and chemistry (english language)</i> - Damien SLUYSMANS	-	Q1	25	-	-	3
CHIM0220-1	<i>Recent nuclear magnetic resonance (NMR) methods in chemistry</i> - Christian DAMBLON	-	Q1	25	-	-	3
CHIM9257-2	<i>Introduction to solid state NMR (english language)</i> - Part A - Christian DAMBLON, Philippe LECOMTE - Part B - Christian DAMBLON, Philippe LECOMTE	-	Q1	15	-	-	3
CHIM9221-1	<i>Advanced techniques in nuclear magnetic resonance of biomolecules</i> - Christian DAMBLON	-	Q1	25	-	-	3
CHIM0657-1	<i>Emerging techniques in the science of separation</i> - JeanFrançois FOCANT, PierreHugues STEFANUTO	-	Q2	10	15	-	3
CHIM9259-2	<i>Analytical techniques in forensic chemistry</i> - JeanFrançois FOCANT, PierreHugues STEFANUTO	-	Q2	15	10	-	3
CRIS0204-1	<i>Complement of crystallography</i> - Frédéric HATERT	-	Q2	15	10	-	3
CHIM9310-1	<i>Advanced spectroscopic analysis methods</i> - Gauthier EPPE, Cédric MALHERBE	-	Q2	20	5	-	3
CHIM0743-1	<i>Introduction to data handling with MetaboAnalyst (english language)</i> - PierreHugues STEFANUTO	-	Q1	15	10	-	3
CHIM0744-1	<i>Introduction to quality assurance</i> - JeanFrançois FOCANT (Odd years)	-	Q2	15	-	-	3
<b>Biological chemistry</b>							
BIOC0232-1	<i>Macromolecular biochemistry (english language)</i> - Moreno GALLEN	-	Q1	25	-	-	3
CHIM9221-1	<i>Advanced techniques in nuclear magnetic resonance of biomolecules</i> - Christian DAMBLON	-	Q1	25	-	-	3

CHIM9262-1	<i>Biomimetic chemistry : when the Man is inspired by nature</i> - Loïc QUINTON	-	Q2	25	-	-	3
CHIM0731-1	<i>Chemistry and physical-chemistry of peptide and protein assemblies</i> - JeanChristophe MONBALIU, Loïc QUINTON	-	Q1	25	-	-	3
BIOC0719-1	<i>Enzymology</i> - André MATAGNE - [10h SEM]	-	Q2	15	-	[+]	3
CHIM0218-1	<i>Elements of medicinal chemistry</i> - N... - [5h SEM]	-	Q2	20	-	[+]	3
CHIM0683-2	<i>Green chemistry</i> - Aurore RICHEL	-	Q2	5	20	-	3

#### Modelling and molecular dynamics

CHIM0707-1	<i>Physical organic chemistry</i> - JeanChristophe MONBALIU	-	Q2	25	-	-	3
CHIM0725-2	<i>Modelling molecules and extended systems</i> (english language) - Françoise REMACLE	-	Q1	15	-	-	3
CHIM0734-1	<i>Photochemistry</i> - Bernard LEYH (Odd years)	-	Q1	15	10	-	3
CHIM9233-1	<i>Molecular logic and quantum computing</i> (english language) - Françoise REMACLE	-	Q2	15	-	-	3
SPAT0054-1	<i>Astrophysics and astrochemistry</i> - Michaël DE BECKER	-	Q2	20	-	-	3

#### Sciences teaching

CHIM0735-1	<i>Sciences and chemistry history</i> - Bernard LEYH	-	Q1	15	10	-	3
CHIM0736-1	<i>Conceptual approach to basic chemistry</i> - Bernard LEYH (Odd years)	-	Q2	15	10	-	3
PHIL0040-1	<i>Introduction to the philosophy of sciences</i> - Laurence BOUQUIAUX	-	Q1	30	-	-	3
DOCU0455-1	<i>Introduction to critical thinking</i> - Theory - Yaël NAZÉ - Practice - Yaël NAZÉ	-	Q2	10	-	-	3
				6	-	-	

[...] Or for a maximum of 9 credits in the course programmes of other sectors in the Faculty of Science, other faculties or other universities. Any request for exemption from the rule of 9 credits maximum will be examined by the jury.

## Additional ECTS Master in chemistry (120 ECTS)

#### Optional courses (B0 : 60Cr)

Students will follow a study programme worth 15 to 60 ECTS selected from the courses below. The programme will be established by the master's jury for each student according to their qualifications. (B0 : 60Cr)

CHIM0704-1	<i>Theoretical chemistry</i> - Françoise REMACLE - [18h Mon. WS]	B0	Q1	30	-	[+]	5
CHIM9287-1	<i>Theoretical and quantum chemistry</i> - Françoise REMACLE - [15h Mon. WS]	B0	Q1	30	20	[+]	4
CHIM9288-1	<i>Spectroscopy and statistical thermodynamics elements</i> - Bernard LEYH - [20h Mon. WS]	B0	Q1	30	-	[+]	4
CHIM0278-1	<i>Organic chemistry III</i> - Lionel DELAUDE - [15h Mon. WS]	B0	Q1	30	55	[+]	7
CHIM9289-1	<i>Analytical chemistry III - Physical methods</i> - Physico-chemical analysis methods - Gauthier EPPE - Electrochemical analysis methods - Gauthier EPPE - Practical work and tutorials - Gauthier EPPE - [15h Mon. WS]	B0	Q1	15	-	-	8
				15	-	-	
				-	65	[+]	
CHIM0678-1	<i>Biochemistry</i> - André MATAGNE	B0	Q1	30	-	-	3
PHYS0968-1	<i>Signal processing</i> - Alejandro SILHANEK	B0	Q2	25	20	-	4
CHIM9285-1	<i>Chemical Kinetics, Introduction to Spectroscopy and Group Theory</i> - Bernard LEYH - [20h Mon. WS]	B0	Q2	35	-	[+]	6

CHIM9291-1	<i>Structural analysis</i> - Christian DAMBLON, Loïc QUINTON - [25h Mon. WS]	B0	Q2	20	-	[+]	<b>4</b>
CHIM0209-2	<i>Inorganic chemistry</i> - Bénédicte VERTRUYEN - [8h Mon. WS]	B0	Q2	30	70	[+]	<b>8</b>
CHIM0283-4	<i>Chemistry of the macromolecules</i> - Christine JÉRÔME	B0	Q2	20	20	-	<b>4</b>
PHIL0201-1	<i>Elements of sciences philosophy</i> - N...	B0	Q2	15	-	-	<b>2</b>
CHIM9292-1	<i>Chemical kinetics</i> - Bernard LEYH - [10h Mon. WS]	B0	Q2	20	-	[+]	<b>3</b>
CHIM9293-1	<i>Spectroscopy integrated laboratory</i> - Christian DAMBLON, Gauthier ÉPPE, Bernard LEYH, JeanChristophe MONBALIU, Loïc QUINTON	B0	Q2	-	100	-	<b>6</b>
CHIM9294-1	<i>Research projects and scientific communication</i> - Caroline COLLETTE, JeanChristophe MONBALIU - [30h Internship]	B0	Q2	5	-	[+]	<b>2</b>
LANG0076-1	<i>English 1</i> (english language) - Daphné BUI, Véronique DOPPAGNE	B0	TA	45	-	-	<b>4</b>
LANG0077-1	<i>English 2</i> (english language) - Clara BRERETON, Véronique DOPPAGNE	B0	TA	45	-	-	<b>4</b>