

**Cycle view of the study programme**

B1 Or Th Pr Au Cr

**Compulsory courses (B1 : 60Cr, B2 : 24Cr)**
**Periods 1 and 2**
**CHIM1.11 Analytical Chemistry : instrumental techniques**

 CHIM9246-2 *Chemical analysis : instrumental techniques (english language)* - B1 Q1 21 28 [+] 6  
 Giorgia PURCARO - [5h SEM]

**Corequisite :**

LANG2954-1 - Pratique de l'anglais de spécialité en chimie et bio-industries : part 1 (niveau B2+)

**CHIM1.12 Food preservation and safety**

 ALIM0001-1 *Food hygiene* - Georges DAUBE, Marianne SINDIC - [2h SEM] B1 Q1 10 6 [+] 2

 ALIM0015-1 *Food sanitary safety* - Mohamed AYADI, Marianne SINDIC - [2h SEM] B1 Q1 16 6 [+] 2

 ALIM0017-1 *Agro-food engineering procedures* - Sabine DANTHINE, Nicolas JACQUET B1 Q1 24 24 - 4

**CHIM1.13 Applied genoproteomics and immunology**

 CHIM0715-1 *Applied genoproteomics (english language)* - Patrick FICKERS, Laurence LINS, Sébastien MASSART, Luc WILLEMS - Suppl : Magali DELEU - [6h AUTR] B1 Q1 18 - [+] 2

 CHIM9321-1 *Immunology* - Benjamin G. DEWALS, Laurent GILLET, Alain VANDERPLASSCHEN, Hervé VANDERSCHUREN B1 Q1 33 - - 4

**CHIM1.14 Biological chemistry and processes engineering**

 CHIM0718-1 *Biological chemistry and corresponding processes engineering, Introduction (english language)* - Aurore RICHEL - [2h FT] B1 Q1 16 23 [+] 5

**CHIM1.15 Nutrition**

 ALIM0010-3 *Food, human nutrition and dietetics (english language)* - Jérôme BINDELLE B1 Q1 18 - - 2

**Corequisite :**

LANG2954-1 - Pratique de l'anglais de spécialité en chimie et bio-industries : part 1 (niveau B2+)

**Periods 3 and 4**
**CHIM1.30 Core curriculum Q2**

 MANA0004-1 *Portfolio (Master)* - Yves BECKERS, Hugues CLAESSENS, Gilles COLINET, Aurore DEGRÉ, Marianne SINDIC - [24h AUTR] B1 Q2 - - [+] 2

 LANG2954-1 *Practice of specialized English in Chemistry and Bio-industries : part 1 (level B2+)* - Sophie DEPOTERRE, Estelle MAYARD - Suppl : Annabel FOREST, Fiona THEWISSEN - [36h AUTR] B1 TA - 12 [+] 4

**Corequisite :**

CHIM9246-2 - Chemical analysis : instrumental techniques

ALIM0010-3 - Food, human nutrition and dietetics

CHIM9254-1 - Practice of natural product chemistry

**CHIM1.31 Microbial processes and interactions**

 CHIM0717-1 *Microbial processes and interactions (english language)* - Frank DELVIGNE, Patrick FICKERS, Philippe JACQUES, Marc ONGENA, JeanClaude TWIZERE B1 Q2 54 36 - 9

**CHIM1.32 Engineering and scaling conservation procedures**

 INGE0014-1 *Engineering and scaling conservation procedures* - Nicolas JACQUET, Paul MALUMBA KAMBA - [6h AUTR] B1 Q2 6 12 [+] 2

 INGE0002-1 *Refrigeration and drying* - Nicolas JACQUET, Paul MALUMBA KAMBA B1 Q2 18 6 - 2

**CHIM1.33 Food industry technologies**

ALIM0012-1 *Technology of fats* - Sabine DANTHINE - [3h FT] B1 Q2 18 30 [+] 4

**Period 3**

**CHIM1.34 Food engineering**

ALIM0007-1 *Physical chemistry of formulations* - Christophe BLECKER B1 Q2 16 8 - 2

ALIM0005-1 *Food formulations engineering* - Christophe BLECKER B1 Q2 16 8 - 2

**CHIM1.35 Practical chemistry of natural substances**

CHIM9245-1 *Advanced chromatographic techniques* (english language) - Giorgia PURCARO B1 Q2 15 3 - 2

CHIM9254-1 *Practice of natural product chemistry* (english language) - Aurore RICHEL B1 Q2 3 35 - 4

**Corequisite :**

LANG2954-1 - Pratique de l'anglais de spécialité en chimie et bio-industries : part 1 (niveau B2+)

**Period 4**

**CHIM2.31 Final work and internship**

RTFE2008-1 *Thesis in chemistry and bio-industries* B2 Q2 - - - 24

**Optional courses (B2 : 36Cr)**

**Single focus (B2 : 30Cr)**

**Professional Focus (B2 : 30Cr)**

**Period 1**

**CHIM2.11 Microbial biotechnology - applications**

CHIM0719-1 *Microbial biotechnology - applications* (english language) - Frank DELVIGNE, Patrick FICKERS, Philippe JACQUES, Marc ONGENA B2 Q1 10 44 - 6

**CHIM2.12 Food Science**

ALIM0006-1 *Food science* - Christophe BLECKER, Sabine DANTHINE B2 Q1 32 32 - 6

**Period 2**

**CHIM2.21 Chemical contaminants analysis and risks of explosions**

CHIM0720-1 *Analysis of chemical contaminants* (english language) - Giorgia PURCARO - [2h AUTR] B2 Q1 - 16 [+] 2

CHIM0721-1 *Entrepreneurship seminar* - Marianne SINDIC - [18h SEM] B2 Q1 - - [+] 2

CHIM0692-1 *Risks of using phytopharmaceutical products and biocides* - Jeroen MEERSMANS - [6h SEM] B2 Q1 12 - [+] 2

**CHIM2.31 Final work and internship**

**Period 3**

RSTG0002-1 *Internship and professional relations* - Catherine COLAUX, Thomas DOGOT, Patrick FICKERS, Didier VAN CAILLIE B2 TA 12 - - 8

**Choose a language module from : (B2 : 4Cr)**

**Periods 3 and 4**

**CHIM 2.31 English (B2 : 4Cr)**

LANG2955-2 *Practice of specialized English for chemistry and bioindustries* B2 TA - 12 [+] 4

: part 2 (level C1 - Presentation) - Sophie DEPOTERRE,  
Estelle MAYARD, Fiona THEWISSEN - Suppl : Annabel FOREST,  
Fiona THEWISSEN - [36h AUTR]

**Corequisite :**

CHIM0720-1 - Analysis of chemical contaminants

RTFE2008-1 - Travail de fin d'études en chimie et bio-industries

CHIM0719-1 - Microbial biotechnology - applications

**All year round**

**CHIM 2.32 Dutch (B2 : 4Cr)**

LANG9914-1 *Dutch - intermediate* - Catherine PEETERS B2 TA 18 18 - 4

**CHIM 2.33 Spanish (B2 : 4Cr)**

LANG9915-1 *Spanish - beginners* - Valérie COYETTE B2 TA 18 18 - 4

**Choose one module from : (B2 : 6Cr)**

**Period 2**

**CHIM2.22 Food supplements (B2 : 6Cr)**

GBLX0058-1 *Complement of food formulations engineering and sensory analysis* - Christophe BLECKER B2 Q1 12 6 - 2

GBLX0059-2 *Logistics in food industry* - Marianne SINDIC - [3h FT, 4h SEM] B2 Q1 9 6 [+] 2

GBLX0060-2 *Microbial ecology of water and wastewater (english language)* - Frank DELVIGNE - [2h SEM] B2 Q1 7 9 [+] 2

**CHIM2.23 From gene to protein (B2 : 6Cr)**

CHIM0716-1 *From gene to protein* - Patrick FICKERS, Laurence LINS, Sébastien MASSART, Martine SCHROYEN, Luc WILLEMS - Suppl : Magali DELEU - [12h AUTR] B2 Q1 12 24 [+] 6

**CHIM2.24 Extraction, purification, characterization and valuation of biosourced molecules (B2 : 6Cr)**

CHIM0722-1 *Extraction, purification, characterization and valorization of biosourced molecules (english language)* - Christian DAMBLON, MarieLaure FAUCONNIER, Loïc QUINTON, Aurore RICHEL B2 Q1 4 36 - 6

**CHIM 2.25 Data mining & Machine learning (B2 : 6Cr)**

STAT1213-1 *Multivariate analysis 1: data exploration and structuring* - Yves BROSTAUX B2 Q1 9 9 - 2

INFO8008-1 *Multivariate analysis 2: data mining and machine learning (english language)* - Yves BROSTAUX, Juan Antonio FERNANDEZ PIERNA, Hélène SOYEURT B2 Q1 12 26 - 4

**Corequisite :**

STAT1213-1 - Analyse multivariée 1 : exploration et structuration de données

**Possibility (via the student affairs office) to choose between 2 and 6 ECTS among the following courses, replacing the B2 elective courses:**

GEOP0010-1 *Soil quality evaluation* - Gilles COLINET B2 Q2 14 13 - 3

ENVT2049-2 *Introduction to environmental assessment* - Angélique LÉONARD - [9h AUTR] B2 Q1 9 - [+] 2

GERE0023-1 *Spatial analysis, organisation of grounds in the landscape and preservation of grounds* - Gilles COLINET, Aurore DEGRÉ, Jeroen MEERSMANS - [8h FT] B2 Q2 23 23 [+] 6

ENVT3050-1 *Quantification of ecosystem services* - Marc DUFRÈNE - [6h AUTR] B2 Q1 9 5 [+] 2

BIOD0001-3 *Biodiversity management* - Arnaud MONTY - [6h SEM] B2 Q1 18 - [+] 2

VEGE0037-1	<i>Innovative system of plant production</i> - Urban agriculture - Haïssam JIJAKLI - Developmental physiology applied to plant productions - Pierre DELAPLACE - [6h FT] - Physical parameters control of plant productions in controlled conditions - Vincent LEEMANS	B2	Q2	13	13	-			<b>6</b>
VEGE0028-1	<i>Methods for managing plant health</i> - Frédéric FRANCIS, Olivier GUELTON, Eric HAUBRUGE, Haïssam JIJAKLI, Ludivine LASSOIS, Sébastien MASSART, François VERHEGGEN	B2	Q2	42	15	-			<b>6</b>
VEGE0036-1	<i>Tropical agroecology</i> - Introduction - Ludivine LASSOIS - [20h FT] - Depth notions - Ludivine LASSOIS	B2	Q2	-	-	[+]	16	21	<b>6</b>
<b>Optional activities (B1 : 14Cr, B2 : 4Cr)</b>									
RSTG0011-1	<i>Additional internship</i> - N...	B1	TA	-	-	-	-	-	<b>5</b>
HULG9547-1	<i>French course for IN mobility students (S1)</i> - N...	B1	Q1	-	-	-	-	-	<b>3</b>
HULG9548-1	<i>French course for IN mobility students (S2)</i> - N...	B1	Q2	-	-	-	-	-	<b>3</b>
HULG9546-1	<i>Erasmus: integration weeks</i> - N...	B1	Q1	-	-	-	-	-	<b>3</b>
INFO9013-1	<i>Multivaried analysis 3: Data mining et Machine Learning: advanced</i> (english language) - Yves BROSTAUX, David COLIGNON, Benoît MERCATORIS, Hélène SOYEURT  <i>Notice : INFO8001-1 prerequisite of the INFO9013-1 course</i>	B2	Q2	12	28	-			<b>4</b>

## Additional ECTS Master in chemistry and bio-industries

### Compulsory courses (B0 : 60Cr)

#### Common core courses

GEST3028-2	<i>Accounting and management</i> - General accounting - Thomas DOGOT, Philippe LEBAILLY - Management, green accounting and business plan - Thomas DOGOT, Philippe LEBAILLY	B0	Q1	12	12	-	10	14	<b>4</b>
GEST3773-1	<i>Management of quality</i> - Mohamed AYADI, Sébastien MASSART - [6h AUTR]	B0	Q1	18	-	[+]			<b>2</b>
STAT2004-1	<i>Applied statistics : First part</i> - Yves BROSTAUX	B0	Q1	12	12	-			<b>2</b>
STAT2005-1	<i>Applied statistic : Second part</i> - Yves BROSTAUX <b>Corequisite :</b> STAT2004-1 - Statistique appliquée : 1ère partie	B0	Q2	12	12	-			<b>2</b>
PSYC5897-3	<i>Team, organization and change</i> - Daniel FAULX, Véronique JANS, Tiber MANFREDINI - [44h SEM] <b>Corequisite :</b> GEST3028-2 - Comptabilité et gestion des entreprises GEST3773-1 - Gestion de la qualité MANA0003-1 - Portfolio (Bachelier)	B0	TA	4	-	[+]			<b>2</b>
MANA0003-1	<i>Portfolio (Bachelor)</i> - Yves BECKERS, Hugues CLAESSENS, Gilles COLINET, Aurore DEGRÉ, Marianne SINDIC - [24h AUTR] <b>Corequisite :</b> PSYC5897-3 - Equipe, organisation & changement	B0	TA	-	-	[+]			<b>2</b>
RSTG0008-1	<i>Internship (Bachelor)</i> - Hélène SOYEURT - [18h AUTR] <b>Corequisite :</b> GEST3773-1 - Gestion de la qualité	B0	TA	6	-	[+]			<b>2</b>

GEST3028-2 - Comptabilité et gestion des entreprises  
 PSYC5897-3 - Equipe, organisation & changement

BIOL2044-1	<i>Plant physiology</i> - Patrick DU JARDIN	B0	Q1	27	9	-	3
BIOL2013-2	<i>General microbiology</i> - Patrick FICKERS, Philippe JACQUES	B0	Q1	16	8	-	2
ENVT2044-1	<i>General ecology</i> - Grégory MAHY, Arnaud MONTY	B0	Q1	24	-	-	2
INFO2038-1	<i>Computer science and algorithmic</i> - Hélène SOYEURT	B0	Q1	2	22	-	2
MATH2016-1	<i>General mathematics and modelling of dynamics systems</i> - Jérôme BINDELLE, Catherine CHARLES, Frank DELVIGNE, Adeline FAYOLLE, Benoît MERCATORIS	B0	Q1	24	24	-	4
PHYS3036-1	<i>Environmental physics</i> - Bernard LONGDOZ	B0	Q1	18	18	-	3
LANG2966-2	<i>English language: level 3</i> - Sophie DEPOTERRE, Estelle MAYARD, Fiona THEWISSEN - Suppl : Ivan DOSEN, Annabel FOREST - [48h E-Lrng]	B0	TA	-	24	[+]	4
INGE0008-1	<i>Multidisciplinary experimental project</i> - Yves BROSTAUX, Pierre DELAPLACE, Sébastien MASSART, Benoît MERCATORIS, Arnaud MONTY, Bernard POCHET - [60h AUTR] <b>Corequisite :</b> STAT2005-1 - Statistique appliquée : 2ème partie STAT2004-1 - Statistique appliquée : 1ère partie GEST3773-1 - Gestion de la qualité BIOL2044-1 - Physiologie végétale ENVT2044-1 - Ecologie générale	B0	TA	6	6	[+]	6

#### Subject : Chemistry and bioindustry

BIAA0003-1	<i>Modelling physical and biological processes</i> - Frank DELVIGNE	B0	Q2	24	-	-	2
BIOL2015-3	<i>Molecular biology</i> - Luc WILLEMS <b>Corequisite :</b> BIOL2016-3 - Génétique générale	B0	Q2	24	-	-	2
BIOL2016-3	<i>General genetics</i> - Nicolas GENGLER, Ludivine LASSOIS <b>Corequisite :</b> BIOL2015-3 - Biologie moléculaire	B0	Q2	12	12	-	2
BIOL2019-1	<i>Theoretical chemistry and physics applied to biomolecules structural analysis</i> - Christian DAMBLON, Loïc QUINTON	B0	Q2	24	24	-	4
CHIM9269-2	<i>Catalysis</i> - MarieLaure FAUCONNIER - [2h AUTR]	B0	Q2	6	12	[+]	2
CHIM9242-4	<i>Fundamentals of quantitative analytical chemistry</i> - Giorgia PURCARO	B0	Q2	16	32	-	4
ALIM0013-2	<i>Techniques of food preservation</i> - Christophe BLECKER <b>Prerequisite :</b> BIAA0002-1 - Technologie agricole et alimentaire	B0	Q2	24	-	-	2

#### Optional activity (B0 : 5Cr)

RSTG0012-1	<i>Additional internship</i>	B0	TA	-	-	-	5
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