

**Cycle view of the study programme**

		B1	Or	Th	Pr	Au	Cr
<b>Core curriculum compulsory courses (B1 : 42Cr, B2 : 18Cr)</b>							
CHIM0724-1	<i>Organic chemistry</i> (english language) - Thibault GENDRON, JeanChristophe MONBALIU	B1	Q1	50	-	-	5
CHIM0726-1	<i>Emerging analytical approaches</i> - Christian DAMBLON, AnneSophie DUWEZ, Gauthier EPPE, JeanFrançois FOCANT, Loïc QUINTON	B1	Q1	50	-	-	5
CHIM0727-1	<i>Macromolecular and materials chemistry</i> (english language) - Christine JÉRÔME, Bénédicte VERTRUYEN - [10h Proj.]	B1	TA	45	-	[+]	5
CHIM0728-1	<i>Design, structure and reactivity of chemical architectures</i> - Lionel DELAUDE, AnneSophie DUWEZ	B1	Q1	50	-	-	5
CHIM0729-1	<i>Biological chemistry</i> (english language) - Christian DAMBLON, Loïc QUINTON	B1	Q1	50	-	-	5
CHIM0746-1	<i>Nuclear chemistry and introduction to labeling and imaging techniques</i> (english language) - Thibault GENDRON	B1	Q2	50	-	-	5
SMEM0044-1	<i>Dissertation, Part A</i> - COLLÉGIALITÉ, AnneSophie DUWEZ	B1	Q2	-	-	-	12
SMEM0044-2	<i>Dissertation, Part B</i> - COLLÉGIALITÉ, AnneSophie DUWEZ	B2	Q1	-	-	-	18

**Common core courses (B1 : 18Cr, B2 : 12Cr)**

Choose courses, with the approval of the Jury, totalling 30 credits among : (B1 : 18Cr, B2 : 12Cr)

Outre les cours de la liste ci-dessous, des cours peuvent être choisis dans les programmes de cours d'autres filières de la Faculté des Sciences, d'autres facultés ou d'autres universités, pour un maximum de 9 crédits sur le total de 30 crédits de cours au choix au programme du Master. Toute demande de dérogation à cette règle des 9 crédits maximum sera examinée par le jury.

**Language**

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

**Industrial chemistry**

CHIM9330-2	<i>Management and safety of industrial processes, Partim "Safety"</i> (english language) - Angélique LÉONARD, Grégoire LÉONARD, Dominique TOYE, Dominique TOYE - [2d FW]	-	Q1	25	-	[+]	3
CHIM0022-3	<i>Transport phenomena, Part A</i> (english language)	-	Q2	30	-	-	3
CHIM0683-2	<i>Green chemistry</i> - Aurore RICHEL	-	Q2	5	20	-	3
CHIM0699-2	<i>Life cycle assessment - Ecodesign</i> (english language) - Sylvie GROSLAMBERT, Angélique LÉONARD - [30h Proj.]	-	Q1	10	8	[+]	3
CHIM9322-2	<i>Procédés de chimie industrielle, Partim 1 - Structure de l'industrie chimique</i> - MarieNoëlle DUMONT, Angélique LÉONARD, Dominique TOYE - [1d FW]	-	Q2	28	-	[+]	3

**Synthesis and materials**

CHIM0745-1	<i>Physico-chemistry in non-aqueous solvents</i> (english language) - Cédric MALHERBE	-	Q2	25	-	-	3
CHIM0707-1	<i>Physical organic chemistry</i> - Pauline BIANCHI, JeanChristophe MONBALIU	-	Q2	25	-	-	3
CHIM9265-1	<i>Introduction to continuous flow organic synthesis</i> (english language) - JeanChristophe MONBALIU - [1d Vis.] (Even years)	-	Q1	15	10	[+]	3
CHIM0731-1	<i>Chemistry and physical-chemistry of peptide and protein assemblies</i> - JeanChristophe MONBALIU, Loïc QUINTON (Odd years)	-	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</i> (english language) - Part A - Philippe LECOMTE - Part B - Philippe LECOMTE	-	Q1	15	-	-	3
CHIM0742-1	<i>Chimie des matériaux et développement durable</i> - Catherine HENRIST - [0,5d Vis.]	-	Q1	15	10	[+]	3
PHYS0999-1	<i>Digital creation in sciences</i> - Roland BILLEN, Valentin FISCHER, JeanChristophe MONBALIU, Eric PARMENTIER, Michel RIGO, Nicolas VANDEWALLE - [30h Proj.]	-	TA	10	-	[+]	6

**Techniques of characterization and analysis**

BIOL0114-4	<i>Electronic microscopies, Part A</i> - Philippe COMPÈRE	-	Q2	15	-	-	3
CHIM9236-2	<i>Microstructure of materials : characterization techniques</i> (Odd years) - 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 (Odd years)	-	Q1	25	-	-	3
CHIM0752-1	<i>Single-molecule approaches in biology and chemistry</i> (english language) - 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</i> (english language) - 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 molecular optical spectroscopy and optics</i> (english language) - Gauthier EPPE, Cédric MALHERBE	-	Q1	20	5	-	3
CHIM0743-1	<i>Experimental design and advanced data analysis</i> (english language) - PierreHugues STEFANUTO	-	Q1	15	10	-	3
CHIM0744-1	<i>Introduction to quality assurance</i> - JeanFrançois FOCANT (Odd years)	-	Q2	15	-	-	3

**Biological chemistry**

BIOC0232-1	<i>Macromolecular biochemistry</i> (english language) - 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 (Odd years)	-	Q1	25	-	-	3

BIOC0719-1	<i>Enzymology</i> - André MATAGNE - [10h SEM]	-	Q2	15	-	[+]	<b>3</b>
CHIM0218-1	<i>Elements of medicinal chemistry</i> - Pierre FRANCOTTE - [5h SEM]	-	Q1	20	-	[+]	<b>3</b>
CHIM0683-2	<i>Green chemistry</i> - Aurore RICHEL	-	Q2	5	20	-	<b>3</b>
<b>Modelling and molecular dynamics</b>							
CHIM0707-1	<i>Physical organic chemistry</i> - Pauline BIANCHI, JeanChristophe MONBALIU	-	Q2	25	-	-	<b>3</b>
CHIM0725-2	<i>Modelling molecules and extended systems</i> (english language) - Françoise REMACLE (Odd years)	-	Q2	15	-	-	<b>3</b>
CHIM9233-1	<i>Molecular logic and quantum computing</i> (english language) - Françoise REMACLE (Even years)	-	Q2	15	-	-	<b>3</b>
SPAT0054-1	<i>Astrophysics and astrochemistry</i> - Michaël DE BECKER	-	Q2	20	-	-	<b>3</b>
<b>Philosophie des sciences et esprit critique</b>							
PHIL0040-1	<i>Introduction to the philosophy of sciences</i> - Laurence BOUQUIAUX	-	Q1	30	-	-	<b>6</b>
DOCU0455-1	<i>Introduction to critical thinking</i> - Theory - Yaël NAZÉ - Practice - Yaël NAZÉ	-	Q2	10	-	-	<b>3</b>
ZENS0019-1	<i>Media education</i> - Thomas JUNGBLUT	-	Q2	12	-	-	<b>2</b>
[...]	ou maximum 9 crédits						

**Only accessible to students enrolled in the Master's programme before the 2025-2026 academic year.**

#### Focus compulsory courses (B2 : 30Cr)

AESS1216-1	<i>Special didactics in chemistry : course and exercises (1st part)</i> - Vincent NATALIS	B2	TA	40	-	-	<b>3</b>
AESS1219-1	<i>Special didactics in chemistry : placements (1st part)</i> - Observation placements - Vincent NATALIS - [10h Internship] - Teaching placements - Vincent NATALIS - [20h Internship] - Reflexive practical work - Vincent NATALIS	B2	TA		-	[+]	<b>3</b>
AESS2216-1	<i>Special didactics in chemistry : course and exercises (2nd part)</i> - Vincent NATALIS	B2	TA	35	-	-	<b>4</b>
AESS2219-1	<i>Special didactics in chemistry : placements (2nd part)</i> - Teaching placements - Vincent NATALIS - [20h Internship] - Reflexive practical work - Vincent NATALIS - Extra-scholar teaching activities - Vincent NATALIS	B2	TA		-	[+]	<b>5</b>
AESS0202-1	<i>General didactics: course and exercises ; observation placements ; reflexive practices</i> - Margaux NOIZET - [10h Internship]	B2	TA	30	10	[+]	<b>4</b>
AESS0246-1	<i>Analysis of scholastic institutions and educational policies</i>	B2	Q2	15	-	-	<b>1</b>
AESS0248-1	<i>Elements of sociology of education</i> - JeanFrançois GUILLAUME	B2	Q2	10	-	-	<b>1</b>
AESS0004-1	<i>Media education</i>	B2	Q2	15	-	-	<b>1</b>
AESS0249-1	<i>Interdisciplinary seminar</i>	B2	Q2	15	-	-	<b>1</b>
AESS0140-1	<i>Professional ethics and training to neutrality and citizenship</i> - Anne HERLA	B2	Q2	25	-	-	<b>2</b>
AESS0143-1	<i>Educational Psychology of adolescents and young adults</i>	B2	Q1	15	-	-	<b>2</b>
AESS0339-1	<i>Understand and manage the diversity of public schools</i>	B2	TA	10	15	-	<b>3</b>

#### Bridging courses Master in chemistry (120 credits)

**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)

[...] Entre 15 et 60 crédits

**Courses list**

CHIM0750-1	<i>Visualisation et traitement de données en chimie I</i> - Cédric MALHERBE, PierreHugues STEFANUTO	B0 TA	5	20	-	<b>3</b>
CHIM0452-1	<i>Visualisation et traitement de données en chimie II</i> - N...	B0 Q1	10	20	-	<b>3</b>
CHIM0704-1	<i>Chimie théorique</i> - Françoise REMACLE	B0 Q1	30	18	-	<b>5</b>
CHIM9287-1	<i>Chimie quantique moléculaire I</i> - Françoise REMACLE	B0 Q1	30	35	-	<b>5</b>
CHIM9387-1	<i>Chimie quantique moléculaire II</i> - N...	B0 Q2	15	15	-	<b>3</b>
CHIM0278-1	<i>Chimie organique III</i> - Lionel DELAUDE	B0 Q1	30	70	-	<b>7</b>
CHIM9289-1	<i>Chimie analytique III</i> - Méthodes physico-chimiques d'analyse - Gauthier EPPE - Travaux pratiques et travaux dirigés - Gauthier EPPE	B0 Q1	30	-	-	<b>7</b>
CHIM0678-1	<i>Biochemistry</i> - André MATAGNE	B0 Q1	30	-	-	<b>3</b>
PHYS0968-1	<i>Signal processing</i> - Alejandro SILHANEK - Suppl : Peter SCHLAGHECK	B0 Q2	25	20	-	<b>4</b>
CHIM1311-1	<i>Éléments de spectroscopie et notions pratiques de théorie des groupes</i> - N...	B0 Q2	18	10	-	<b>3</b>
CHIM1312-1	<i>Éléments de thermodynamique statistique et compléments de cinétique</i> - N...	B0 Q2	18	10	-	<b>3</b>
CHIM9291-1	<i>Analyse structurale</i> - Christian DAMBLON, Loïc QUINTON	B0 Q2	20	25	-	<b>4</b>
CHIM0760-1	<i>Chimie inorganique</i> - Bénédicte VERTRUYEN	B0 Q1	20	-	-	<b>2</b>
CHIM0209-2	<i>Travaux pratiques de chimie inorganique</i> - Rudi CLOOTS, Catherine HENRIST, Bénédicte VERTRUYEN	B0 Q2	-	78	-	<b>4</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> - Pieter THYSSSEN	B0 Q2	15	-	-	<b>2</b>
CHIM9293-1	<i>Spectroscopy integrated laboratory</i> - Christian DAMBLON, Gauthier EPPE, Cédric MALHERBE, JeanChristophe MONBALIU, N..., 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 (english language)</i> - Clara BRERETON, Daphné BUI	B0 TA	45	-	-	<b>4</b>
LANG0077-1	<i>English 2 (english language)</i> - Clara BRERETON	B0 TA	45	-	-	<b>4</b>