

Two-Year Master Program (120 ECTS)

First Year

Compulsory courses

CHIM0213-2	<i>Structural analysis</i> (english language) - Christian DAMBLON, Edwin DE PAUW	Q1	45	-	-	4
CHIM0609-1	<i>Advanced organic chemistry</i> - André LUXEN		30	-	-	4
CHIM0635-1	<i>Advanced physical chemistry</i> (english language) - Bernard LEYH	Q1	30	-	-	4
CHIM0636-1	<i>Macromolecular physical chemistry</i> (english language) - Christine JÉRÔME	Q1	30	-	-	4
CHIM0637-1	<i>Chemistry of materials</i> (english language)	TA				4
	- <i>Inorganic materials</i> - Bénédicte VERTRUYEN	20	-	-		
	- <i>Organic and biological materials</i> - AnneSophie DUWEZ	20	-	-		
BIOC0232-1	<i>Macromolecular biochemistry</i> (english language) - Moreno GALLENI	Q1	30	30	-	4
CHIM0638-1	<i>Surfaces and interfaces</i> (english language) - AnneSophie DUWEZ	Q1	15	-	-	2
CHIM9219-1	<i>Theoretical and quantum chemistry</i> (english language) - Françoise REMACLE - [15h QA Sess.]	Q1	30	15	[+]	4
CHIM0096-1	<i>Nuclear chemistry</i> (english language) - André LUXEN		15	-	-	2
CHIM0645-1	<i>Integrated research project in laboratory (including group projects and bibliography)</i> - AnneSophie DUWEZ	TA	-	-	-	14

Optional courses

Choose courses totalling 14 ECTS from the following :

CHIM0081-3	<i>Industrial Chemistry Processes, structure of chemical industry</i> - Angélique LÉONARD - [1d FW]	Q1	30	-	[+]	4
BIOL0114-4	<i>Electronic microscopies</i> - Philippe COMPÈRE	Q2	15	-	-	2
CHIM9236-1	<i>Microstructure of Materials : characterization techniques</i> - Catherine HENRIST		15	-	-	2
CHIM9264-1	<i>Electrical and magnetic properties of materials</i> - Bénédicte VERTRUYEN	Q1	15	-	-	2
CHIM0642-1	<i>Molecular dynamics and photochemistry</i> - Bernard LEYH	Q2	30	-	-	4
BIOC0719-1	<i>Enzymology</i> - André MATAGNE	Q2	15	-	-	2
CHIM9259-2	<i>Analytical techniques in forensic chemistry</i> - JeanFrançois FOCANT	Q2	15	-	-	2
CHIM0218-1	<i>Elements of medicinal chemistry</i> - Bernard PIROTTE		15	-	-	2
CHIM9265-1	<i>Introduction to continuous flow organic synthesis</i> (english language) - JeanChristophe MONBALIU - [1d Vis.]	Q2	15	10	[+]	4
AESS0255-1	<i>Introduction to chemistry didactics</i> - Bernard LEYH	Q1	15	-	-	2

Second year

Compulsory courses

CHIM0651-1	<i>Seminars (all fields of chemistry)</i> - AnneSophie DUWEZ	TA	-	-	-	2
SMEM0016-1	<i>Final thesis</i> - COLLÉGIALITÉ	TA	-	-	-	20

Optional courses

Choose, with the accord of the Jury, courses to a total of 8 credits from the list below or from othe Ulg Masters programmes or from outside the Ulg.

Synthesis and materials

CHIM0707-1	<i>Physical organic chemistry</i> - JeanChristophe MONBALIU	Q2	15	-	-	2
CHIM0246-1	<i>New reactions in organic synthesis</i> - Albert DEMONCEAU	TA	15	-	-	2
CHIM0656-1	<i>Organometallic Catalysis</i> - Lionel DELAUE	TA	15	-	-	2
CHIM0219-1	<i>Industrial polymers</i> - Christine JÉRÔME	Q2	15	-	-	2
CHIM0659-1	<i>Polymers and Environment</i> - Philippe LECOMTE, Jutta RIEGER		15	-	-	2
CHIM9260-1	<i>Properties and applications of surfactants</i> - Guy BROZE, Antoine DEBUIGNE	Q2	15	-	-	2
CHIM0248-1	<i>Advanced ceramic materials : synthesis, characterization and use</i> -		15	-	-	2

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CHIM0088-1	<i>Nanomaterials, principles of synthesis and application</i> - Christophe DETREMBLEUR	Q1	15	-	-	-	-	2
CHIM0654-1	<i>Molecular devices and molecular machines</i> - AnneSophie DUWEZ	Q2	15	-	-	-	-	2
Techniques of characterization and analysis								
CHIM0220-1	<i>Recent nuclear magnetic resonance (NMR) methods in chemistry</i> - Christian DAMBLON	Q1	15	-	-	-	-	2
CHIM9261-1	<i>Introduction to NMR in solid phase</i> - Christian DAMBLON, Philippe LECOMTE, Bénédicte VERTRUYEN		15	-	-	-	-	2
CHIM9221-1	<i>Advanced techniques in nuclear magnetic resonance of biomolecules</i> - Christian DAMBLON		15	-	-	-	-	2
CHIM0653-1	<i>Imaging and marking techniques</i> - André LUXEN		15	-	-	-	-	2
CHIM0655-1	<i>Advanced mass spectrometry methods</i> - Edwin DE PAUW	TA	15	-	-	-	-	2
CHIM0657-1	<i>Emerging techniques in the science of separation</i> - JeanFrançois FOCANT	Q2	15	-	-	-	-	2
CHIM0248-1	<i>Advanced ceramic materials : synthesis, characterization and use</i> - Rudi CLOOTS		15	-	-	-	-	2
CRIS0204-1	<i>Complement of crystallography</i> - Frédéric HATERT	Q2	15	-	-	-	-	2
CHIM0693-1	<i>Major instruments for studying the subject</i> - Raphaël HERMANN - [2d Vis.]	Q2	10	10			[+]	2
Biological chemistry								
CHIM9221-1	<i>Advanced techniques in nuclear magnetic resonance of biomolecules</i> - Christian DAMBLON		15	-	-	-	-	2
CHIM0655-1	<i>Advanced mass spectrometry methods</i> - Edwin DE PAUW	TA	15	-	-	-	-	2
CHIM9262-1	<i>Biomimetic chemistry : when the Man is inspired by nature</i> - Loïc QUINTON	Q2	15	-	-	-	-	2
Modelling and molecular dynamics								
CHIM0707-1	<i>Physical organic chemistry</i> - JeanChristophe MONBALIU	Q2	15	-	-	-	-	2
CHIM0654-1	<i>Molecular devices and molecular machines</i> - AnneSophie DUWEZ	Q2	15	-	-	-	-	2
CHIM0090-1	<i>Theory and modeling of hybrid molecular complexes</i> - Françoise REMACLE	Q1	15	-	-	-	-	2
CHIM0089-1	<i>Molecular logic</i> - Françoise REMACLE	Q1	15	-	-	-	-	2
CHIM0231-1	<i>Chemical reaction dynamics : experimental approaches</i> - Bernard LEYH	TA	15	-	-	-	-	2
SPAT0054-1	<i>Astrophysics and astrochemistry</i> - Michaël DE BECKER	Q2	15	5				2
Programme of courses for other masters degrees								
[...]	Programme of courses of other Master in the ULg and out of the ULg							

Choose one focus from the following :

Research Focus

Compulsory courses

CHIM0646-1	<i>Physical chemistry of nanostructures</i> (english language) - AnneSophie DUWEZ	Q1	15	-	-	-	-	2
CHIM0647-1	<i>Coordination Chemistry and Catalysis</i> - Lionel DELAUDE	Q1	30	-	-	-	-	4
CHIM0648-1	<i>Chemometrics and quality systems</i> (english language) - JeanFrançois FOCANT	Q2	15	-	-	-	-	2
CHIM0649-1	<i>Molecular Modelling</i> - Françoise REMACLE	Q1	20	-	-	-	-	3
CHIM0650-1	<i>Structural biological chemistry</i> (english language) - Christian DAMBLON		30	-	-	-	-	4
CHIM9220-1	<i>Introduction to research</i> - AnneSophie DUWEZ	TA	-	-	-	-	-	2
STRA0027-1	<i>Final thesis complement</i> - COLLÉGIALITÉ		-	-	-	-	-	9
STRA0037-1	<i>Final thesis monitoring</i> - COLLÉGIALITÉ		-	-	-	-	-	4

Teaching focus

Compulsory courses

AESS0246-1	<i>Analysis of scholastic institutions and key-players, educational policies</i> - Dominique LAFONTAINE	Q1	15	-	-	-	-	1
AESS0248-1	<i>Elements of sociology of education</i> - JeanFrançois GUILLAUME	Q2	10	-	-	-	-	1
AESS0140-1	<i>Professional ethics and training to neutrality and citizenship</i> - Anne HERLA	Q2	25	-	-	-	-	2
AESS0202-1	<i>General didactics: course and exercises ; observation placements ; reflexive practices</i> - Annick FAGNANT - [10h Internship]	TA	30	10			[+]	4
AESS0004-1	<i>Media education</i> - Jérémy HAMERS	Q1	15	-	-	-	-	1
AESS0249-1	<i>Interdisciplinary seminar</i> - Annick FAGNANT	Q2	15	-	-	-	-	1
AESS0143-1	<i>Educational Psychology of adolescents and young adults</i> - Annick FAGNANT	Q1	15	-	-	-	-	2

AESS0339-1	<i>Understand and manage the diversity of public schools</i> - Ariane BAYE	Q2	10	15	-	3
AESS1216-1	<i>Special didactics in chemistry : course and exercises (1st part)</i> - Bernard LEYH	Q1	40	-	-	3
AESS1219-1	<i>Special didactics in chemistry : placements (1st part)</i> - <i>Observation placements</i> - Bernard LEYH - [10h Internship] - <i>Teaching placements</i> - Bernard LEYH - [20h Internship] - <i>Reflexive practical work</i> - Bernard LEYH	Q1	-	-	[+]	3
AESS2216-1	<i>Special didactics in chemistry : course and exercises (2nd part)</i> - Bernard LEYH	Q2	35	-	-	4
AESS2219-1	<i>Special didactics in chemistry : placements (2nd part)</i> - <i>Teaching placements</i> - Bernard LEYH - [20h Internship] - <i>Reflexive practical work</i> - Bernard LEYH - <i>Extra-scholar teaching activities</i> - Bernard LEYH	Q2	-	-	[+]	5
			-	5	-	
			-	10	-	

Professional Focus

Compulsory courses

CHIM0022-3	<i>Transport phenomena (english language)</i> - Andreas PFENNIG		30	-	-	4
CHIM0679-1	<i>Introduction to quality assurance (english language)</i> - JeanFrançois FOCANT	Q2	15	-	-	2
CHIM0074-2	<i>Seminars on industrial security</i> - JeanLuc BOZET, Angélique LÉONARD, Dominique TOYE - [2d FW]	Q1	15	-	[+]	2
TOXI0004-1	<i>Principles of toxicology</i> - Corinne CHARLIER	Q1	20	-	-	3
GEST3002-1	<i>Human Resources</i> - Jocelyne ROBERT	Q1	24	-	-	3
SSTG0008-1	<i>Internship</i> - COLLÉGIALITÉ		-	-	-	14
SSTG0028-1	<i>Placement monitoring</i> - COLLÉGIALITÉ		-	-	-	2

One-year master program (60 ECTS)

Compulsory courses

CHIM0213-2	<i>Structural analysis (english language)</i> - Christian DAMBLON, Edwin DE PAUW	Q1	45	-	-	4
CHIM0609-1	<i>Advanced organic chemistry</i> - André LUXEN		30	-	-	4
CHIM0635-1	<i>Advanced physical chemistry (english language)</i> - Bernard LEYH	Q1	30	-	-	4
CHIM0636-1	<i>Macromolecular physical chemistry (english language)</i> - Christine JÉRÔME	Q1	30	-	-	4
CHIM0637-1	<i>Chemistry of materials (english language)</i> - <i>Inorganic materials</i> - Bénédicte VERTRUYEN - <i>Organic and biological materials</i> - AnneSophie DUWEZ	TA	20	-	-	4
BIOC0232-1	<i>Macromolecular biochemistry (english language)</i> - Moreno GALLEN	Q1	30	30	-	4
CHIM0638-1	<i>Surfaces and interfaces (english language)</i> - AnneSophie DUWEZ	Q1	15	-	-	2
CHIM9219-1	<i>Theoretical and quantum chemistry (english language)</i> - Françoise REMACLE - [15h QA Sess.]	Q1	30	15	[+]	4
CHIM0096-1	<i>Nuclear chemistry (english language)</i> - André LUXEN		15	-	-	2
SMEM0015-1	<i>Final thesis</i> - COLLÉGIALITÉ	TA	-	-	-	16

Optional courses

Choose courses totalling 12 ECTS from the following :

Chemistry

CHIM0081-3	<i>Industrial Chemistry Processes, structure of chemical industry</i> - Angélique LÉONARD - [1d FW]	Q1	30	-	[+]	4
BIOL0114-4	<i>Electronic microscopies</i> - Philippe COMPÈRE	Q2	15	-	-	2
CHIM9236-1	<i>Microstructure of Materials : characterization techniques</i> - Catherine HENRIST		15	-	-	2
CHIM9264-1	<i>Electrical and magnetic properties of materials</i> - Bénédicte VERTRUYEN	Q1	15	-	-	2
CHIM0642-1	<i>Molecular dynamics and photochemistry</i> - Bernard LEYH	Q2	30	-	-	4
BIOC0719-1	<i>Enzymology</i> - André MATAGNE	Q2	15	-	-	2
CHIM9259-2	<i>Analytical techniques in forensic chemistry</i> - JeanFrançois FOCANT	Q2	15	-	-	2
CHIM0218-1	<i>Elements of medicinal chemistry</i> - Bernard PIROTTE		15	-	-	2
CHIM9265-1	<i>Introduction to continuous flow organic synthesis (english language)</i> - JeanChristophe MONBALIU - [1d Vis.]	Q2	15	10	[+]	4

AESS0255-1	<i>Introduction to chemistry didactics</i> - Bernard LEYH	Q1	15	-	-	2
Environmental management						
ENVT0031-2	<i>Society / Environment</i> - Dorothée DENAYER, François MELARD	Q2	24	12	-	3
ENVT0030-2	<i>Managing the environment</i> - JeanMarie HAUGLUSTAINE, François MELARD, Pierre M. STASSART	Q2	24	12	-	3
ENVT0034-1	<i>Environmental data management</i> - Philippe ANDRE, AnneClaude ROMAIN, Bernard TYCHON	TA	12	12	-	2
ENVT0013-3	<i>Assessment tools (impact assessment, LCA)</i> - Alain HANSON, Nathalie SEMAL	Q2	12	12	-	2
ENVT0848-3	<i>Impacts of human activities on ecosystems and including land use</i> - Dorothée DENAYER, Célia JOAQUIMJUSTO, Angélique LÉONARD, Roberto RENZONI	Q1	20	10	-	2

Notice : students who have chosen all classes in the 'Environmental Sciences and Management' module will have direct access to the 2nd year of the Masters in Environmental Sciences and Management, organised at the Arlon campus. Other students will also have access to the 2nd year of the Masters in Environmental Sciences and Management, on the condition that they follow classes corresponding to these 12 credits in addition to the 60 credits from this study year.

Master Erasmus Mundus FAME : Nanomaterials and Modelling

General courses

CHIM9227-1	<i>Quantum Chemistry (english language)</i> - Françoise REMACLE	Q1	30	10	-	4
PHYS3003-1	<i>Functional Materials : theory and modeling (english language)</i> - Philippe GHOSEZ		20	10	-	4
CHIM9228-1	<i>Macromolecular Chemistry (english language)</i> - Christine JÉRÔME	Q1	20	15	-	4
CHIM9256-1	<i>Advanced solid state chemistry</i> - Bénédicte VERTRUYEN	Q1	30	-	-	4
CHIM9230-1	<i>Nanomaterials, (electro)synthesis and applications (english language)</i> - Christophe DETREMBLEUR, Christine JÉRÔME	Q1	30	-	-	4

Specialised courses, including tutorial and practice

Courses totaling 13 ECTS have to be chosen among :

PHYS3014-1	<i>Physics and chemistry of materials : complements</i> - COLLÉGIALITÉ	Q1	20	-	-	2
PHYS3004-1	<i>Nanomaterials : theory and modeling (english language)</i> - JeanYves RATY	Q1	20	10	-	4
PHYS3015-1	<i>Electronic and vibrational spectroscopies</i> - Matthieu VERSTRAETE		15	15	-	4
CHIM9231-1	<i>Characterization of Biomaterials (english language)</i> - Edwin DE PAUW, MarieClaire GILLET	Q1	15	15	-	4
CHIM9232-1	<i>Biohybrids: theory and modeling (english language)</i> - Françoise REMACLE	Q1	30	-	-	4
CHIM9233-1	<i>Molecular logic (english language)</i> - Françoise REMACLE	Q1	15	-	-	2
CHIM9234-1	<i>Polymers and environment</i> - Philippe LECOMTE		15	-	-	2
CHIM9257-1	<i>Introduction to solid state NMR</i> - Christian DAMBLON, Philippe LECOMTE, Bénédicte VERTRUYEN		15	-	-	2
CHIM9266-1	<i>Characterization of nanostructures by scanning probe techniques (english language)</i> - AnneSophie DUWEZ	Q1	15	-	-	2
PHYS3016-1	<i>Physical characterization of materials and interfaces (english language)</i> - Ngoc Duy NGUYEN	Q1	15	15	-	4
PHYS0096-1	<i>Physics of superconductors</i> - Alejandro SILHANEK	Q1	30	-	-	4
PHYS3023-1	<i>Theory of magnetism (english language)</i> - Eric BOUSQUET		20	10	-	4