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## 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 GALLEN	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> - Rudi CLOOTS		15	-	-	2
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

**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>	Q1				3
	- <i>Observation placements</i> - Bernard LEYH - [10h Internship]	-	-	-	[+]	
	- <i>Teaching placements</i> - Bernard LEYH - [20h Internship]	-	-	-	[+]	
	- <i>Reflexive practical work</i> - Bernard LEYH	-	5	-		
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>	Q2				5
	- <i>Teaching placements</i> - Bernard LEYH - [20h Internship]	-	-	-	[+]	
	- <i>Reflexive practical work</i> - Bernard LEYH	-	5	-		
	- <i>Extra-scholar teaching activities</i> - Bernard LEYH	-	10	-		