Cycle view of the study programme

		Bl	Or	Th	Pr	Au	Cr
Core curriculum compulsory courses (B1 : 4Cr, B2 : 18Cr)							
MATH0112-1	*Preparation for the final thesis* - Emilie CHARLIER, COLLÉGIALITÉ *Notice* : this course can be taken either in block 1 or block 2.	B1	TA	-	-	-	**4**
SMEM0012-1	*Final thesis* - Emilie CHARLIER, COLLÉGIALITÉ	B2	TA	-	-	-	**18**
Common core courses (B1 : 56Cr, B2 : 12Cr)							
In agreement with the Jury, choose courses not already taken for a total of 68 credits from the lists below, a minimum of 44 credits from the Mathematical list to be acquired throughout the cycle: (B1 : 56Cr, B2 : 12Cr)							
Mathematics							
[...]	at least 44 credits from the courses of Mathematics						
[...]	the remainder of the courses not chosen from the 'Mathematics' list						
Other disciplines							
[...]	maximum 12 credits from the courses of other disciplines (B1) *Notice* : compatibility of the timetable with the courses in the Mathematics list cannot be guaranteed.						
[...]	the remainder of the courses not chosen from the 'Other subjects' list						
Other courses							
[...]	a maximum of 10 credits in the curriculum of the University of Liège or another institution (B1)						
[...]	The course programme at the University of Liège or another institution						
Mathematics							
Mathematical analysis							
MATH0074-1	*Theory of distributions* - Françoise BASTIN (Odd years)	-	Q1	25	15	-	**4**
MATH0257-2	*Complex analysis* - Edouard DAVIAUD	-	Q1	30	30	-	**6**
MATH0463-1	*Functional analysis* - Céline ESSER - [20h Mon. WS]	-	Q1	30	10	[+]	**8**
MATH0512-1	*Functional spaces and representational families* - Françoise BASTIN, Samuel NICOLAY - [20h Mon. WS] (Even years)	-	Q1	30	10	[+]	**8**
MATH0513-1	*Functional spaces relating to measurement theory* - Samuel NICOLAY - [20h Mon. WS] (Even years)	-	Q2	30	10	[+]	**8**
MATH0209-3	*Measure Theory* - Samuel NICOLAY - [20h Mon. WS] (Odd years)	-	Q1	30	10	[+]	**8**
MATH0082-1	*Research problems in analysis* (english language) - Françoise BASTIN, Edouard DAVIAUD, Céline ESSER, Samuel NICOLAY - [20h Mon. WS]	-	TA	30	10	[+]	**10**
Discrete mathematics							
MATH0075-1	*Discrete mathematics* - Manon STIPULANTI (Even years)	-	Q1	30	20	-	**8**
MATH0076-1	*Discrete mathematics project* - Emilie CHARLIER, Julien LEROY, Michel RIGO, Manon STIPULANTI (Even years) **Corequisite :** MATH0083-1 - Théorie ergodique MATH0075-1 - Mathématiques discrètes	-	TA	-	-	-	**4**
MATH0083-1	*Ergodic theory* - Julien LEROY (Even years)	-	Q1	30	20	-	**8**
INFO0212-2	*Algorithmics and computability* - Emilie CHARLIER (Odd years)	-	Q1	30	20	-	**8**
MATH0470-1	*Combinatorics on words* (english language) - Manon STIPULANTI (Odd years)	-	Q1	30	20	-	**8**
MATH0077-1	*Project on combinations* - Emilie CHARLIER, Julien LEROY, Michel RIGO, Manon STIPULANTI (Odd years)	-	TA	-	-	-	**4**

	Corequisite : MATH0470-1 - Combinatorics on words INFO0212-2 - Algorithmique et calculabilité						
MATH0078-1	*Research problems in discrete mathematics* - Emilie CHARLIER, Julien LEROY, Michel RIGO, Manon STIPULANTI - [20h Mon. WS] **Corequisite :** MATH0076-1 - Projet de mathématiques discrètes MATH0077-1 - Projet de combinatoire	-	TA	30	10	[+]	**10**
Probability and statistics							
STAT0725-2	*Bayesian statistics* - Philippe LAMBERT - [20h Mon. WS] (Even years)	-	Q2	30	10	[+]	**8**
STAT0727-2	*Non-parametric statistics* - Gentiane HAESBROECK - [20h Mon. WS] (Even years)	-	Q1	30	10	[+]	**8**
MATH2022-1	*Monte Carlo methods in statistics* (english language) - Arnout VAN MESSEM - [40h Proj.] (Even years)	-	Q2	24	12	[+]	**8**
MATH0514-1	*Stochastic analysis* - Laurent LOOSVELDT - [20h Proj.] (Even years)	-	Q2	30	10	[+]	**8**
MATH0079-1	*Stochastic process* - Laurent LOOSVELDT - [20h Proj.] (Odd years)	-	Q2	30	10	[+]	**8**
STAT0078-1	*Practice of statistical consultancy* - Marie ERNST - [20h Mon. WS] (Odd years) **Corequisite :** STAT0082-1 - Statistique multivariée MATH2022-1 - Monte Carlo methods in statistics	-	Q2	20	-	[+]	**4**
STAT0082-1	*Multivariate statistics* - Gentiane HAESBROECK - [20h Mon. WS] (Odd years) **Corequisite :** MATH2021-1 - High-dimensional statistics	-	Q1	30	10	[+]	**8**
INFO2048-1	*Business Analytics* (english language) - Michael SCHYNS - Suppl : Sarah SAUFNAY	-	Q2	30	-	-	**5**
ELEN0062-1	*Introduction to machine learning* (english language) - Pierre GEURTS, Louis WEHENKEL - [40h Proj.]	-	Q1	30	5	[+]	**8**
MATH0084-1	*Research problems in probability and statistics* (english language) - Céline ESSER, Gentiane HAESBROECK, Laurent LOOSVELDT, Arnout VAN MESSEM - [20h Mon. WS]	-	TA	30	10	[+]	**10**
Other fields							
MATH0017-3	*Mathematical Logic and Set Theory* - Julien LEROY - [20h Mon. WS] (Odd years)	-	Q2	30	10	[+]	**8**
MATH0212-2	*General topology* - Céline ESSER - [10h Mon. WS]	-	Q2	30	20	[+]	**6**
MATH0464-1	*Differential geometry II* - Pierre MATHONET - [20h Mon. WS] (Even years)	-	Q1	30	10	[+]	**8**
MATH0489-1	*Lie algebra* - Pierre MATHONET - [20h Mon. WS]	-	Q2	30	10	[+]	**8**
MATH2483-1	*History of mathematics, Part 1: History of mathematics* - Kevin BALHAN, Pierre MATHONET, Naïm ZENAÏDI	-	Q2	25	20	-	**4**
Other disciplines							
SSTG2037-1	*Internship in a company* - COLLÉGIALITÉ, Michel RIGO - [120h Proj.]	-	TA	-	-	[+]	**10**
PHYS0999-1	*Digital creation in sciences* - Roland BILLEN, Valentin FISCHER, JeanChristophe MONBALIU, Eric PARMENTIER, Michel RIGO, Nicolas VANDEWALLE - [30h Proj.]	-	TA	10	-	[+]	**4**
Computer science							
INFO2009-2	*Introduction to computer science* - Bernard BOIGELOT	-	Q1	24	14	-	**4**
INFO0061-4	*Computers organization* - Bernard BOIGELOT	-	Q2	15	15	-	**3**

INFO0009-2	*Database (general organisation)* - Christophe DEBRUYNE - [25h Proj.]	-	Q2	26	26	[+]	**6**
INFO0902-1	*Data structures and algorithms* - Pierre GEURTS - [40h Proj.]	-	Q2	26	20	[+]	**6**
INFO0027-2	*Programming techniques* (english language) - *Algorithmics* - Laurent MATHY - [40h Proj.] - *Software patterns* - Laurent MATHY - [30h Proj.]	-	Q2 14 10	 14 10	 [+] [+]		**6**
INFO0054-1	*Functional programming* - Christophe DEBRUYNE - [20h Proj.]	-	Q1	24	24	[+]	**6**
INFO0062-1	*Object-oriented programming* (english language) - Bernard BOIGELOT - [20h Proj.]	-	Q2	25	20	[+]	**5**
INFO0085-1	*Compilers* (english language) - Pascal FONTAINE - [75h Proj.]	-	Q2	25	-	[+]	**6**
MATH0462-1	*Discrete optimization* (english language) - Quentin LOUVEAUX - [25h Proj.]	-	Q2	30	20	[+]	**6**
INFO8006-1	*Introduction to artificial intelligence* (english language) - Gilles LOUPPE - [45h Proj.]	-	Q1	25	20	[+]	**6**
MATH0461-2	*Introduction to numerical optimization* (english language) - Quentin LOUVEAUX - [25h Proj.]	-	Q1	30	20	[+]	**6**
Astrophysics and astronomy							
ASTR0204-2	*Astrophysics and geophysics* - MarcAntoine DUPRET, Valérie VAN GROOTEL	-	Q1	30	30	-	**8**
SPAT0012-1	*General relativity* (english language) - Guillaume MAHLER	-	Q1	30	10	-	**4**
SPAT0044-1	*Stellar structure and evolution I* (english language) - MarcAntoine DUPRET	-	Q1	35	-	-	**4**
SPAT0045-1	*Stellar structure and evolution II* (english language) - MarcAntoine DUPRET	-	Q2	20	20	-	**4**
Finance and management							
GEST0832-4	*Financial Markets* - Georges HÜBNER	-	Q2	40	15	-	**5**
FINA0053-1	*Investments and Portfolio Management* (english language) - Georges HÜBNER, Patrick SCHWARZ **Corequisite :** GEST0832-4 - Marchés financiers	-	Q2	30	-	-	**5**
MQGE0001-6	*Operations Research* (english language) - Jérôme DE BOECK	-	Q1	45	-	-	**5**
LOGI0010-1	*Supply Chain Management* (english language) - Yasemin ARDA **Corequisite :** MQGE0001-6 - Operations Research	-	Q2	45	-	-	**5**
MQGE0007-1	*Financial Mathematics and Stochastic Calculus* (english language) - Elise VANDOMME **Corequisite :** GEST0832-4 - Marchés financiers	-	Q2	30	-	-	**5**
LOGI0012-1	*Logistics and Transportation* (english language) - Sabine LIMBOURG	-	Q2	30	-	-	**5**
LOGI0013-1	*Operations Planning* (english language) - Yasemin ARDA **Corequisite :** LOGI0010-1 - Supply Chain Management	-	Q2	30	-	-	**5**
FINA0052-1	*Financial Derivatives* (english language) - Patrick SCHWARZ **Corequisite :** GEST0832-4 - Marchés financiers	-	Q2	30	-	-	**5**
FINA0064-1	*Financial Risk Modeling* (english language) - Julien HAMBUCKERS **Corequisite :** MQGE0007-1 - Financial Mathematics and Stochastic Calculus FINA0053-1 - Investments and Portfolio Management	-	Q1	30	-	-	**5**
FINA0051-1	*Banking and Insurance* (english language) - Fabien BONIVER,	-	Q2	30	-	-	**5**

HÜBNER
Corequisite :
GEST0832-4 - Marchés financiers

Physics

PHYS0212-2	*Statistical physics* - Nicolas VANDEWALLE - Suppl : Maxime HUBERT	-	Q2	30	30	-	**8**
PHYS0205-2	*Complement of physical statistics* - Nicolas VANDEWALLE - Suppl : Maxime HUBERT - [20h Mon. WS]	-	Q2	30	10	[+]	**8**
PHYS3033-1	*Quantum physics I* - Thierry BASTIN	-	Q1	35	25	-	**8**
PHYS3034-1	*Quantum physics II* - Thierry BASTIN	-	Q2	20	10	-	**4**

Focus optional courses (B2 : 30Cr)

In agreement with the Jury, choose complementary courses not already selected for a total of 30 credits from the study programmes of the ULiege. (B2 : 30Cr)

[...] courses for a total of 30 credits

Bridging courses Master in mathematics (120 credits)

[...] The update course, worth a maximum of 60 credits, will be determined based on students¿ prior training.