

Two-Year Master Program (120 ECTS)

First Year

Compulsory course

MATH0483-2	<i>History of mathematics</i> - Georges HANSOUL - [20h Mon. WS]	Q2	20	-	[+]	4
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Optional courses

Choose courses totalling 56 credits, with the agreement of the Jury, from the following and, possibly, from the courses programme of other masters :

First list

[...] At least 32 credits from from "Première liste"

MATH0463-1	<i>Functional Analysis I</i> - JeanPierre SCHNEIDERS - [20h Mon. WS]	Q1	30	10	[+]	8
MATH0209-3	<i>Measure Theory</i> - Samuel NICOLAY - [20h Mon. WS]	Q1	30	10	[+]	8
INFO0213-2	<i>Automata and formal languages theory</i> - Michel RIGO - [20h Mon. WS]	Q1	30	10	[+]	8
MATH0220-2	<i>Functions of complex variables</i> - JeanPierre SCHNEIDERS - [20h Mon. WS]	Q2	30	10	[+]	8
MATH0464-1	<i>Differential geometry II</i> - Pierre LECOMTE - [20h Mon. WS]	Q2	30	10	[+]	8
MATH0017-3	<i>Mathematical Logic and Set Theory</i> - Georges HANSOUL - [20h Mon. WS]	Q1	30	10	[+]	8
MATH0465-1	<i>Algebraic Topology</i> - JeanPierre SCHNEIDERS - [20h Mon. WS]	Q1	30	10	[+]	8
MATH0489-1	<i>Lie algebra</i> - Pierre MATHONET - [20h Mon. WS]	Q2	30	10	[+]	8

The second list

[...] At most 24 credits of courses from "Deuxième liste"

STAT0723-2	<i>Linear models</i> - Yvik SWAN - [20h Mon. WS]	Q2	30	10	[+]	8
STAT0201-3	<i>Multivariate statistics</i> - Gentiane HAESBROECK - [20h Mon. WS]	Q1	30	10	[+]	8
STAT0725-2	<i>Bayesian statistics</i> - Philippe LAMBERT - [20h Mon. WS]	Q2	30	10	[+]	8
INFO0902-1	<i>Data structures and algorithms</i> - Pierre GEURTS - [40h Proj.]	Q2	30	20	[+]	8
INFO0054-1	<i>Functional programming</i> - Pascal GRIBOMONT - [15h Proj.]	Q2	30	25	[+]	8
ASTR0201-3	<i>Astronomy</i> - MarcAntoine DUPRET - [20h Mon. WS]	Q1	30	10	[+]	8
PHYS0243-2	<i>Quantum Physics I</i> - Thierry BASTIN - [20h Mon. WS]	Q1	30	10	[+]	8
PHYS0203-2	<i>Statistical physics</i> - Nicolas VANDEWALLE - [20h Mon. WS]	Q2	30	10	[+]	8
SPAT0012-1	<i>General relativity</i> - Yves DE ROP	TA	60	-	-	8
SPAT0044-1	<i>Stellar Structure and evolution I</i> - MarcAntoine DUPRET	Q1	20	20	-	4
SPAT0045-1	<i>Stellar structure and evolution II</i> - MarcAntoine DUPRET	Q2	20	20	-	4
MECA0203-3	<i>Continuum Mechanics</i> - Pierre DAUBY - [20h Mon. WS]	TA	30	10	[+]	8
PHYS0204-3	<i>Complement of quantum Physics 2</i> - Thierry BASTIN - [20h Mon. WS]	Q2	30	10	[+]	8
PHYS0205-2	<i>Complement of physical statistics</i> - Nicolas VANDEWALLE - [20h Mon. WS]	Q2	30	10	[+]	8

Programme of courses for other masters degrees

[...] At most 8 credits

Optional free course

AESS0252-1	<i>Introduction to mathematics didactics</i> - Marguerite GILOT	Q1	10	10	-	2
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Second year

Compulsory course

SMEM0012-1	<i>Final thesis</i> - COLLÉGIALITÉ	TA	-	-	-	22
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Optional courses

Choose one (several) course(s), with the approval of the Jury, totalling 8 credits among :

[...] the remaining courses not selected in the first list

MATH0463-1	<i>Functional Analysis I</i> - JeanPierre SCHNEIDERS - [20h Mon. WS]	Q1	30	10	[+]	8
MATH0209-3	<i>Measure Theory</i> - Samuel NICOLAY - [20h Mon. WS]	Q1	30	10	[+]	8
INFO0213-2	<i>Automata and formal languages theory</i> - Michel RIGO - [20h Mon. WS]	Q1	30	10	[+]	8

MATH0220-2	<i>Functions of complex variables</i> - JeanPierre SCHNEIDERS - [20h Mon. WS]	Q2	30	10	[+]	8
MATH0464-1	<i>Differential geometry II</i> - Pierre LECOMTE - [20h Mon. WS]	Q2	30	10	[+]	8
MATH0017-3	<i>Mathematical Logic and Set Theory</i> - Georges HANSOUL - [20h Mon. WS]	Q1	30	10	[+]	8
MATH0465-1	<i>Algebraic Topology</i> - JeanPierre SCHNEIDERS - [20h Mon. WS]	Q1	30	10	[+]	8
MATH0489-1	<i>Lie algebra</i> - Pierre MATHONET - [20h Mon. WS]	Q2	30	10	[+]	8
[...]	the remaining courses not taken on the second list					
STAT0723-2	<i>Linear models</i> - Yvik SWAN - [20h Mon. WS]	Q2	30	10	[+]	8
STAT0201-3	<i>Multivariate statistics</i> - Gentiane HAESBROECK - [20h Mon. WS]	Q1	30	10	[+]	8
STAT0725-2	<i>Bayesian statistics</i> - Philippe LAMBERT - [20h Mon. WS]	Q2	30	10	[+]	8
INFO0902-1	<i>Data structures and algorithms</i> - Pierre GEURTS - [40h Proj.]	Q2	30	20	[+]	8
INFO0054-1	<i>Functional programming</i> - Pascal GRIBOMONT - [15h Proj.]	Q2	30	25	[+]	8
ASTR0201-3	<i>Astronomy</i> - MarcAntoine DUPRET - [20h Mon. WS]	Q1	30	10	[+]	8
PHYS0243-2	<i>Quantum Physics I</i> - Thierry BASTIN - [20h Mon. WS]	Q1	30	10	[+]	8
PHYS0203-2	<i>Statistical physics</i> - Nicolas VANDEWALLE - [20h Mon. WS]	Q2	30	10	[+]	8
SPAT0012-1	<i>General relativity</i> - Yves DE ROP	TA	60	-	-	8
SPAT0044-1	<i>Stellar Structure and evolution I</i> - MarcAntoine DUPRET	Q1	20	20	-	4
SPAT0045-1	<i>Stellar structure and evolution II</i> - MarcAntoine DUPRET	Q2	20	20	-	4
MECA0203-3	<i>Continuum Mechanics</i> - Pierre DAUBY - [20h Mon. WS]	TA	30	10	[+]	8
PHYS0204-3	<i>Complement of quantum Physics 2</i> - Thierry BASTIN - [20h Mon. WS]	Q2	30	10	[+]	8
PHYS0205-2	<i>Complement of physical statistics</i> - Nicolas VANDEWALLE - [20h Mon. WS]	Q2	30	10	[+]	8
[...]	The programme of courses for other Masters.					

Choose one focus from the following :

Research Focus

Compulsory courses

MATH0466-1	<i>Seminars</i> - COLLÉGIALITÉ - [75h SEM]		-	-	[+]	12
SMEM0037-1	<i>Final thesis complement</i> - COLLÉGIALITÉ	TA	-	-	-	8

Optional courses

With the agreement of the Jury, choose 1 course among :

MATH0467-1	<i>Functional Analysis II</i> - Françoise BASTIN - [20h Mon. WS]	Q2	30	10	[+]	10
MATH0468-1	<i>Algebraic Analysis</i> - JeanPierre SCHNEIDERS - [20h Mon. WS]	Q2	30	10	[+]	10
MATH0061-1	<i>Complement of studies in the theory of measurement</i> - Samuel NICOLAY - [20h Mon. WS]	Q2	30	10	[+]	10
MATH0490-1	<i>Questions of differential geometry</i> - Pierre MATHONET - [20h Mon. WS]	Q1	30	10	[+]	10
MATH0234-2	<i>Boolean Topology and Boolean Algebra</i> - Georges HANSOUL - [20h Mon. WS]	TA	30	10	[+]	10
MATH0470-1	<i>Combinatorics on words</i> - Michel RIGO - [20h Mon. WS]	TA	30	10	[+]	10

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
AESS1214-1	<i>Special didactics in mathematics : course and exercises (1st part)</i> - Marguerite GILOT	TA	40	-	-	3
AESS1215-1	<i>Special didactics in mathematics : placements (1st part)</i>	TA				3
	- <i>Observation placements</i> - Marguerite GILOT - [10h Internship]	-	-	-	[+]	
	- <i>Teaching placements</i> - Marguerite GILOT - [20h Internship]	-	-	-	[+]	

AESS2214-1	- <i>Reflexive practical work</i> - Marguerite GILOT <i>Special didactics in mathematics : course and exercises (2nd part)</i> - Marguerite GILOT	-	5	-	-	-	4
AESS2215-1	<i>Special didactics in mathematics : placements (2nd part)</i> - <i>Teaching placements</i> - Marguerite GILOT - [20h Internship] - <i>Reflexive practical work</i> - Marguerite GILOT - <i>Extra-scholar teaching activities</i> - Marguerite GILOT	TA	35	-	-	[+]	5

Professional focus in management

Notice : The specialisation in management will be taught for the last time in 2014-2015.

Compulsory courses

GEST3001-1	<i>People management and organisation</i> - Jocelyne ROBERT	Q1	24	24	-	-	4
GEST3002-1	<i>Human Resources</i> - Jocelyne ROBERT	Q1	24	-	-	-	2
GEST3003-1	<i>Competitive strategy in the marketplace</i> (english language) - Michael GHILISSEN	Q1	16	16	-	-	3
GEST3004-1	<i>Marketing (operations and management)</i> (english language) - Michael GHILISSEN	Q1	16	16	-	-	3
GEST3005-2	<i>Accountancy and Finance</i> - Jacques BERWART		24	24	-	-	4
GEST3006-1	<i>Operations and supply chain management I</i> (english language) - Yasemin ARDA	Q1	16	16	-	-	3
GSTG3001-1	<i>Business plan</i> - COLLÉGIALITÉ		-	30	-	-	4
GSTG3002-1	<i>Functional analysis of a company</i> - COLLÉGIALITÉ - [30h Internship]		-	-	[+]	-	4

Optional courses

Choose, in accordance with the Jury, 1 course among :

GEST3010-1	<i>Operations and supply chain management II</i> - Sabine LIMBOURG	Q1	16	16	-	-	3
GEST3011-2	<i>ICT for Business</i> - Alain DUBOIS	Q1	16	16	-	-	3
GEST3012-1	<i>Financial and actuarial modelling</i> - Louis ESCH	Q1	16	16	-	-	3

Professional focus in computer

Compulsory courses

INFO0062-1	<i>Object-Oriented Programming</i> - Bernard BOIGELOT - [20h Proj.]	Q2	30	24	[+]	-	6
INFO0009-1	<i>Database (general organisation)</i> - Pierre WOLPER - [25h Proj.]	Q2	30	25	[+]	-	6

Optional courses

With the agreement of the Jury, choose 3 courses among :

The courses INFO0902-1 and INFO0054-1 must be taken first.							
INFO0902-1	<i>Data structures and algorithms</i> - Pierre GEURTS - [40h Proj.]	Q2	30	20	[+]	-	6
INFO0054-1	<i>Functional programming</i> - Pascal GRIBOMONT - [15h Proj.]	Q2	30	25	[+]	-	6
If the INFO0902-1 and/or INFO0054-1 courses have already been followed, choose, with the approval of the Jury, 1, 2 or 3 courses from the following :							
ELEN0040-1	<i>Digital Electronics</i> - Michael KRAFT - Suppl : Patricia ROUSSEAU	Q2	30	30	-	-	6
INFO0085-1	<i>Compilers</i> - Pierre GEURTS - [75h Proj.]	Q2	25	-	[+]	-	6
INFO0027-2	<i>Programming techniques</i> (english language) - Laurent MATHY - [70h Proj.]	Q2	30	24	[+]	-	6
MATH0462-1	<i>Discrete optimization</i> (english language) - Quentin LOUVEAUX - [25h Proj.]	Q1	30	20	[+]	-	6
SYST0002-2	<i>Modelling and analysis of systems</i> - Rodolphe SEPULCHRE - Suppl : Erik QUAEGBEUR - [15h Proj.]	Q1	30	30	[+]	-	6
INFO0049-1	<i>Knowledge representation</i> (english language) - Pascal GRIBOMONT - [50h Proj.]	Q2	30	25	[+]	-	6

Professional focus in Statistics

Compulsory course

STAT0727-2 *Non-parametric statistics* - Cédric HEUCHENNE - [20h Mon. WS] Q2 30 10 [+] 6

Optional courses

With the agreement of the Jury, choose 3 courses among :

The courses STAT0723-2, STAT0201-3 and STAT0725-2 must be taken first.

STAT0723-2 *Linear models* - Yvik SWAN - [20h Mon. WS] Q2 30 10 [+] 8

STAT0201-3 *Multivariate statistics* - Gentiane HAESBROECK - [20h Mon. WS] Q1 30 10 [+] 8

STAT0725-2 *Bayesian statistics* - Philippe LAMBERT - [20h Mon. WS] Q2 30 10 [+] 8

If the STAT0723-2, STAT0201-3 and/or STAT0725-2 courses have already been attended, choose, with the agreement of the Jury, 1, 2 or 3 courses from the following :

MATH0065-1 *Probability and statistic IV* - Christophe CROUX - [20h Mon. WS] 30 10 [+] 8

MATH1222-1 *Introduction to stochastic processes* Q2 8

- *Markov chains* - Pierre GEURTS, Yvik SWAN 20 10 -

- *Markov process* - Yvik SWAN - [20h Mon. WS] 10 - [+] 8

ELEN0062-1 *Applied Inductive Learning* (english language) - Pierre GEURTS, Q1 30 5 [+] 8

Louis WEHENKEL - [40h Proj.]

One-year master program (60 ECTS)

Compulsory course

SMEM0011-1 *Final thesis* - COLLÉGIALITÉ TA - - - 16

Optional courses

With the approval of the Jury, choose courses totaling 32 ECTS from the first list below :

First list

MATH0463-1 *Functional Analysis I* - JeanPierre SCHNEIDERS - [20h Mon. WS] Q1 30 10 [+] 8

MATH0209-3 *Measure Theory* - Samuel NICOLAY - [20h Mon. WS] Q1 30 10 [+] 8

INFO0213-2 *Automata and formal languages theory* - Michel RIGO - [20h Mon. WS] Q1 30 10 [+] 8

MATH0220-2 *Functions of complex variables* - JeanPierre SCHNEIDERS - [20h Mon. WS] Q2 30 10 [+] 8

MATH0464-1 *Differential geometry II* - Pierre LECOMTE - [20h Mon. WS] Q2 30 10 [+] 8

MATH0017-3 *Mathematical Logic and Set Theory* - Georges HANSOUL - [20h Mon. WS] Q1 30 10 [+] 8

MATH0465-1 *Algebraic Topology* - JeanPierre SCHNEIDERS - [20h Mon. WS] Q1 30 10 [+] 8

MATH0489-1 *Lie algebra* - Pierre MATHONET - [20h Mon. WS] Q2 30 10 [+] 8

Choose one module (12 ECTS) from :

Module : Mathematics

MATH0483-2 *History of mathematics* - Georges HANSOUL - [20h Mon. WS] Q2 20 - [+] 4

[...] With the approval of the Jury, choose one (several) course(s) totaling 8 ECTS from the first list below or from the second list below and, possibly, from the courses programme of other masters

The second list

STAT0723-2 *Linear models* - Yvik SWAN - [20h Mon. WS] Q2 30 10 [+] 8

STAT0201-3 *Multivariate statistics* - Gentiane HAESBROECK - [20h Mon. WS] Q1 30 10 [+] 8

STAT0725-2 *Bayesian statistics* - Philippe LAMBERT - [20h Mon. WS] Q2 30 10 [+] 8

INFO0902-1 *Data structures and algorithms* - Pierre GEURTS - [40h Proj.] Q2 30 20 [+] 8

INFO0054-1 *Functional programming* - Pascal GRIBOMONT - [15h Proj.] Q2 30 25 [+] 8

ASTR0201-3 *Astronomy* - MarcAntoine DUPRET - [20h Mon. WS] Q1 30 10 [+] 8

PHYS0243-2 *Quantum Physics I* - Thierry BASTIN - [20h Mon. WS] Q1 30 10 [+] 8

PHYS0203-2 *Statistical physics* - Nicolas VANDEWALLE - [20h Mon. WS] Q2 30 10 [+] 8

SPAT0012-1 *General relativity* - Yves DE ROP TA 60 - - 8

SPAT0044-1 *Stellar Structure and evolution I* - MarcAntoine DUPRET Q1 20 20 - 4

SPAT0045-1 *Stellar structure and evolution II* - MarcAntoine DUPRET Q2 20 20 - 4

MECA0203-3 *Continuum Mechanics* - Pierre DAUBY - [20h Mon. WS] TA 30 10 [+] 8

Module : 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 choose the two courses from the "Environmental Science and Management" module will have direct access to the 2nd year of the Masters in Environmental Science and Management, organised on the Arlon campus. Other students will also have access to the 2nd year of the Masters in Environmental Science and Management, on the condition that they take courses corresponding to these 12 credits in addition to the 60 credits taken during this study year.