

## Block view of the study programme

Or Th Pr Au Cr

### Bloc 1 du programme de l'année

#### Compulsory course

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

#### 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

##### The second list

[...] 24 ECTS maximum

##### Programme of courses for other masters degrees

[...] Courses totalling maximum 8 credits

#### Optional free course

AESS0252-1 *Introduction to mathematics didactics* - Marguerite GILOT Q1 10 10 - 2

### Bloc 2 du programme de l'année

#### Compulsory course

SMEM0012-1 *Final thesis* - COLLÉGIALITÉ TA - - - 22

#### Optional courses

En accord avec le Jury, choisir des cours pour un total de 8 crédits dans les deux listes ci-dessous et, éventuellement, dans le programme des cours d'autres masters :

##### First list

[...] Courses totalling maximum 8 credits

##### The second list

[...] Courses totalling maximum 8 credits

##### Programme of courses for other masters degrees

[...] Courses totalling maximum 8 credits

#### Choose one focus from the following :

##### Research Focus

MATH0466-1 *Seminars* - COLLÉGIALITÉ - [75h SEM] TA - - [+] 12

SMEM0037-1 *Final thesis complement* - COLLÉGIALITÉ TA - - - 8

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

MATH0467-1 *Functional Analysis II* - Françoise BASTIN - [20h Mon. WS] Q2 30 10 [+] 10

##### Prerequisite :

MATH0463-1 - Analyse fonctionnelle I

MATH0468-1 *Algebraic Analysis* - JeanPierre SCHNEIDERS - [20h Mon. WS] Q2 30 10 [+] 10

MATH0061-1 *Complement of studies in the theory of measurement* - Samuel NICOLAY - [20h Mon. WS] Q2 30 10 [+] 10

##### Prerequisite :

MATH0209-3 - Théorie de la mesure

MATH0490-1 *Questions of differential geometry* - Pierre MATHONET - [20h Mon. Q1 30 10 [+] 10

WS]

**Prerequisite :**

MATH0489-1 - Algèbres de Lie

MATH0464-1 - Géométrie différentielle II

MATH0234-2 *Boolean Topology and Boolean Algebra* - Georges HANSOUL - [20h Mon. WS] Q2 30 10 [+] 10

MATH0470-1 *Combinatorics on words* - Michel RIGO - [20h Mon. WS] Q1 30 10 [+] 10

**Teaching focus**

AESS0246-1	<i>Analysis of scholastic institutions and key-players, educational policies</i> - Dominique LAFONTAINE - Suppl : MarieThérèse DELHOUNE	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> - <i>Observation placements</i> - Marguerite GILOT - [10h Internship] - <i>Teaching placements</i> - Marguerite GILOT - [20h Internship] - <i>Reflexive practical work</i> - Marguerite GILOT	TA	-	-	[+] [+] -	3
AESS2214-1	<i>Special didactics in mathematics : course and exercises (2nd part)</i> - Marguerite GILOT	TA	35	-	-	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	-	-	[+] - -	5

**Professional focus in management**

GEST0832-4	<i>Financial Markets</i> - Georges HÜBNER, Danielle SOUGNÉ	Q1	40	15	-	5
MATH1222-3	<i>Introduction to stochastic processes, Markov chains</i> - Pierre GEURTS, Yvik SWAN - [10h Mon. WS]	Q2	20	10	[+]	4
FINA0053-1	<i>Investments and Portfolio Management (english language)</i> - Georges HÜBNER	Q2	30	-	-	5
MQGE0001-6	<i>Operations Research (english language)</i> - Yves CRAMA	Q1	45	-	-	6

Choose 2 courses, with the approval of the Jury, among :

LOGI0010-1	<i>Supply Chain Management (english language)</i> - Yasemin ARDA	Q2	45	-	-	5
MQGE0002-3	<i>Computational Optimization (english language)</i> - Yves CRAMA	Q2	30	-	-	5
MQGE0007-1	<i>Financial Mathematics and Stochastic Calculus (english language)</i> - Louis ESCH	Q2	30	-	-	5

**Professional focus in computer**

INFO0062-1	<i>Object-oriented programming (english language)</i> - Bernard BOIGELOT - [20h Proj.]	Q2	30	24	[+]	6
------------	--	----	----	----	-----	---

# Study programmes 2015-2016

## Faculty of Sciences

### Master in mathematics (120 ECTS)

INFO0009-1 *Database (general organisation)* - Pierre WOLPER - [25h Proj.] Q2 30 25 [+] 6

Choose 3 courses, with the approval of the Jury, among :

The courses INFO0902-1 and INFO0054-1 must be taken first.

INFO0902-1 *Data structures and algorithms* - Pierre GEURTS - [40h Proj.] Q2 30 20 [+] 6

INFO0054-1 *Functional programming* - 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 *Digital electronics (english language)* - Michael KRAFT Q2 30 30 - 6

INFO0085-1 *Compilers* - Pierre GEURTS - [75h Proj.] Q2 25 - [+] 6

INFO0027-2 *Programming techniques (english language)* - Laurent MATHY - [70h Proj.] Q2 30 24 [+] 6

MATH0462-1 *Discrete optimization (english language)* - Quentin LOUVEAUX - [25h Proj.] Q1 30 20 [+] 6

SYST0002-2 *Modelling and analysis of systems* - Guillaume DRION - [15h Proj.] Q1 30 30 [+] 6

INFO0049-1 *Knowledge representation (english language)* - Pascal GRIBOMONT - [50h Proj.] Q2 30 25 [+] 6

#### Professional focus in Statistics

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

Choose 3 courses, with the approval of the Jury, among :

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

STAT0723-2 *Linear models* - - Suppl : Catherine TIMMERMANS - [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 courses STAT0723-2, STAT0201-3 and/or STAT0725-2 have already taken, choose, with the agreement of the Jury, 1, 2 or 3 courses from the following :

MATH0065-1 *Probability and statistics IV (english language)* - Yvik SWAN - [20h Mon. WS] Q2 30 10 [+] 8

MATH1222-4 *Introduction to stochastic processes*  
- *Markov chains* - Pierre GEURTS, Yvik SWAN - [10h Mon. WS] Q2 20 10 [+] 8  
- *Markov process* - Yvik SWAN - [20h Mon. WS] 10 - [+] 8

ELEN0062-1 *Applied Inductive Learning (english language)* - Pierre GEURTS, Louis WEHENKEL - [40h Proj.] Q1 30 5 [+] 8

#### 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

MATH0065-1 *Probability and statistics IV (english language)* - Yvik SWAN - [20h Mon. WS] Q2 30 10 [+] 8

MATH0489-1	<i>Lie algebra</i> - Pierre MATHONET - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>
<b>The second list</b>						
STAT0723-2	<i>Linear models</i> - - Suppl : Catherine TIMMERMANS - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>
STAT0201-3	<i>Multivariate statistics</i> - Gentiane HAESBROECK - [20h Mon. WS]	Q1	30	10	[+]	<b>8</b>
STAT0725-2	<i>Bayesian statistics</i> - Philippe LAMBERT - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>
INFO0902-1	<i>Data structures and algorithms</i> - Pierre GEURTS - [40h Proj.]	Q2	30	20	[+]	<b>8</b>
INFO0054-1	<i>Functional programming</i> - Pascal GRIBOMONT - [15h Proj.]	Q2	30	25	[+]	<b>8</b>
ASTR0201-3	<i>Astronomy</i> - MarcAntoine DUPRET - [20h Mon. WS]	Q1	30	10	[+]	<b>8</b>
PHYS0243-2	<i>Quantum Physics I</i> - Thierry BASTIN - [20h Mon. WS]	Q1	30	10	[+]	<b>8</b>
PHYS0203-2	<i>Statistical physics</i> - Nicolas VANDEWALLE - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>
SPAT0012-1	<i>General relativity, Part 1: Introduction</i> - Yves DE ROP	Q1	20	-	-	<b>2</b>
SPAT0012-2	<i>General relativity, Part 2: Mathematics methods</i> - Yves DE ROP	Q1	20	-	-	<b>3</b>
	<b>Corequisite :</b> SPAT0012-1 - Relativité générale					
SPAT0012-3	<i>General relativity, Part 3: supplement</i> - Yves DE ROP	Q2	20	-	-	<b>3</b>
	<b>Corequisite :</b> SPAT0012-2 - Relativité générale					
SPAT0044-1	<i>Stellar Structure and evolution I</i> - MarcAntoine DUPRET	Q1	20	20	-	<b>4</b>
SPAT0045-1	<i>Stellar structure and evolution II</i> - MarcAntoine DUPRET	Q2	20	20	-	<b>4</b>
MECA0203-3	<i>Continuum Mechanics</i> - Pierre DAUBY - [20h Mon. WS]	Q1	30	10	[+]	<b>8</b>
PHYS0204-3	<i>Complement of quantum Physics 2</i> - Thierry BASTIN - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>
PHYS0205-2	<i>Complement of physical statistics</i> - Nicolas VANDEWALLE - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>

## Programme transitoire à destination des étudiants ayant réussi leur master 1 de "Master en sciences mathématiques, à finalité spécialisée en statistique" en 2014-2015

### Bloc 1 du programme de l'année

#### Optional courses

##### Follow-up to the focus chosen in first year

##### Professional focus in Statistics

STAT0727-2	<i>Non-parametric statistics</i> - N... - [20h Mon. WS]	Q2	30	10	[+]	<b>6</b>
------------	---	----	----	----	-----	----------

Choose three of the following courses :

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

STAT0723-2	<i>Linear models</i> - - Suppl : Catherine TIMMERMANS - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>
STAT0201-3	<i>Multivariate statistics</i> - Gentiane HAESBROECK - [20h Mon. WS]	Q1	30	10	[+]	<b>8</b>
STAT0725-2	<i>Bayesian statistics</i> - Philippe LAMBERT - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>

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

MATH0065-1	<i>Probability and statistics IV</i> (english language) - Yvik SWAN - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>
------------	---	----	----	----	-----	----------

# Study programmes 2015-2016

## Faculty of Sciences

### Master in mathematics (120 ECTS)

MATH1222-4	<i>Introduction to stochastic processes</i> - Markov chains - Pierre GEURTS, Yvik SWAN - [10h Mon. WS] - Markov process - Yvik SWAN - [20h Mon. WS]	Q2	20	10	[+]	8
			10	-	[+]	
ELEN0062-1	<i>Applied Inductive Learning</i> (english language) - Pierre GEURTS, Louis WEHENKEL - [40h Proj.]	Q1	30	5	[+]	8

#### Compulsory courses

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

#### Optional courses

Choose courses totalling 8 ECTS from the following :

- [...] Maximum 8 credits of courses not taken in the 1st year in the first list
- [...] Maximum 8 credits of courses not taken in the 1st year in the second list
- [...] Maximum 8 credits in others master courses programme

#### 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
MATH0065-1	<i>Probability and statistics IV</i> (english language) - Yvik SWAN - [20h Mon. WS]	Q2	30	10	[+]	8
MATH0489-1	<i>Lie algebra</i> - Pierre MATHONET - [20h Mon. WS]	Q2	30	10	[+]	8

#### The second list

STAT0723-2	<i>Linear models</i> - - Suppl : Catherine TIMMERMANS - [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, Part 1: Introduction</i> - Yves DE ROP	Q1	20	-	-	2
SPAT0012-2	<i>General relativity, Part 2: Mathematics methods</i> - Yves DE ROP	Q1	20	-	-	3
SPAT0012-3	<i>General relativity, Part 3: supplement</i> - Yves DE ROP	Q2	20	-	-	3
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]	Q1	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 transitoire à destination des étudiants ayant réussi leur master 1 de

## "Master en sciences mathématiques, à finalité spécialisée en informatique" en 2014-2015

### Bloc 1 du programme de l'année

#### Optional courses

##### Follow-up to the focus chosen in first year

##### Professional focus in computer

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

Choose three of the following courses :

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> (english language) - Michael KRAFT	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> - Guillaume DRION - [15h Proj.]	Q1	30	30	[+]	6
INFO0049-1	<i>Knowledge representation</i> (english language) - Pascal GRIBOMONT - [50h Proj.]	Q2	30	25	[+]	6

#### Compulsory courses

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

#### Optional courses

Choose courses totalling 8 ECTS from the following :

- [...] Maximum 8 credits of courses not taken in the 1st year in the first list
- [...] Maximum 8 credits of courses not taken in the 1st year in the second list
- [...] Maximum 8 credits in others master courses programme

#### 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

MATH0065-1	<i>Probability and statistics IV</i> (english language) - Yvik SWAN - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>
MATH0489-1	<i>Lie algebra</i> - Pierre MATHONET - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>
<b>The second list</b>						
STAT0723-2	<i>Linear models</i> - - Suppl : Catherine TIMMERMANS - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>
STAT0201-3	<i>Multivariate statistics</i> - Gentiane HAESBROECK - [20h Mon. WS]	Q1	30	10	[+]	<b>8</b>
STAT0725-2	<i>Bayesian statistics</i> - Philippe LAMBERT - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>
INFO0902-1	<i>Data structures and algorithms</i> - Pierre GEURTS - [40h Proj.]	Q2	30	20	[+]	<b>8</b>
INFO0054-1	<i>Functional programming</i> - Pascal GRIBOMONT - [15h Proj.]	Q2	30	25	[+]	<b>8</b>
ASTR0201-3	<i>Astronomy</i> - MarcAntoine DUPRET - [20h Mon. WS]	Q1	30	10	[+]	<b>8</b>
PHYS0243-2	<i>Quantum Physics I</i> - Thierry BASTIN - [20h Mon. WS]	Q1	30	10	[+]	<b>8</b>
PHYS0203-2	<i>Statistical physics</i> - Nicolas VANDEWALLE - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>
SPAT0012-1	<i>General relativity, Part 1: Introduction</i> - Yves DE ROP	Q1	20	-	-	<b>2</b>
SPAT0012-2	<i>General relativity, Part 2: Mathematics methods</i> - Yves DE ROP	Q1	20	-	-	<b>3</b>
SPAT0012-3	<i>General relativity, Part 3: supplement</i> - Yves DE ROP	Q2	20	-	-	<b>3</b>
SPAT0044-1	<i>Stellar Structure and evolution I</i> - MarcAntoine DUPRET	Q1	20	20	-	<b>4</b>
SPAT0045-1	<i>Stellar structure and evolution II</i> - MarcAntoine DUPRET	Q2	20	20	-	<b>4</b>
MECA0203-3	<i>Continuum Mechanics</i> - Pierre DAUBY - [20h Mon. WS]	Q1	30	10	[+]	<b>8</b>
PHYS0204-3	<i>Complement of quantum Physics 2</i> - Thierry BASTIN - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>
PHYS0205-2	<i>Complement of physical statistics</i> - Nicolas VANDEWALLE - [20h Mon. WS]	Q2	30	10	[+]	<b>8</b>

## Programme transitoire à destination des étudiants ayant réussi leur master 1 de "Master en sciences mathématiques, à finalité approfondie" en 2014-2015

### Bloc 1 du programme de l'année

#### Optional courses

##### Follow-up to the focus chosen in first year

##### Research Focus

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

Choose one of the following courses :

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

#### Compulsory courses

SMEM0012-1 *Final thesis* - COLLÉGIALITÉ TA - - - 22

### Optional courses

Choose courses totalling 8 ECTS from the following :

- [...] Maximum 8 credits of courses not taken in the 1st year in the first list
- [...] Maximum 8 credits of courses not taken in the 1st year in the second list
- [...] Maximum 8 credits in others master courses programme

### 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
MATH0065-1	<i>Probability and statistics IV</i> (english language) - Yvik SWAN - [20h Mon. WS]	Q2	30	10	[+]	8
MATH0489-1	<i>Lie algebra</i> - Pierre MATHONET - [20h Mon. WS]	Q2	30	10	[+]	8

### The second list

STAT0723-2	<i>Linear models</i> - - Suppl : Catherine TIMMERMANS - [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, Part 1: Introduction</i> - Yves DE ROP	Q1	20	-	-	2
SPAT0012-2	<i>General relativity, Part 2: Mathematics methods</i> - Yves DE ROP	Q1	20	-	-	3
SPAT0012-3	<i>General relativity, Part 3: supplement</i> - Yves DE ROP	Q2	20	-	-	3
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]	Q1	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 transitoire à destination des étudiants ayant réussi leur master 1 de "Master en sciences mathématiques, à finalité spécialisée en gestion" en 2014-2015

### Bloc 1 du programme de l'année

#### Optional courses

**Follow-up to the focus chosen in first year**

**Professional focus in management**

GEST0832-4	<i>Financial Markets</i> - Georges HÜBNER, Danielle SOUGNÉ	Q1	40	15	-	5
MATH1222-3	<i>Introduction to stochastic processes, Markov chains</i> - Pierre GEURTS, Yvik SWAN - [10h Mon. WS]	Q2	20	10	[+]	4
FINA0053-1	<i>Investments and Portfolio Management (english language)</i> - Georges HÜBNER	Q2	30	-	-	5
MQGE0001-6	<i>Operations Research (english language)</i> - Yves CRAMA	Q1	45	-	-	6

Choose two courses out of the following :

LOGI0010-1	<i>Supply Chain Management (english language)</i> - Yasemin ARDA	Q2	45	-	-	5
MQGE0002-3	<i>Computational Optimization (english language)</i> - Yves CRAMA	Q2	30	-	-	5
MQGE0007-1	<i>Financial Mathematics and Stochastic Calculus (english language)</i> - Louis ESCH	Q2	30	-	-	5

**Compulsory courses**

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

**Optional courses**

Choose courses totalling 8 ECTS from the following :

- [...] Maximum 8 credits of courses not taken in the 1st year in the first list
- [...] Maximum 8 credits of courses not taken in the 1st year in the second list
- [...] Maximum 8 credits in others master courses programme

**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
MATH0065-1	<i>Probability and statistics IV (english language)</i> - Yvik SWAN - [20h Mon. WS]	Q2	30	10	[+]	8
MATH0489-1	<i>Lie algebra</i> - Pierre MATHONET - [20h Mon. WS]	Q2	30	10	[+]	8

**The second list**

STAT0723-2	<i>Linear models</i> - - Suppl : Catherine TIMMERMANS - [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, Part I: Introduction</i> - Yves DE ROP	Q1	20	-	-	2

SPAT0012-2	<i>General relativity, Part 2: Mathematics methods</i> - Yves DE ROP	Q1	20	-	-	3
SPAT0012-3	<i>General relativity, Part 3: supplement</i> - Yves DE ROP	Q2	20	-	-	3
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]	Q1	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 transitoire à destination des étudiants ayant réussi leur master 1 de "Master en sciences mathématiques, à finalité didactique" en 2014-2015

### Bloc 1 du programme de l'année

#### Optional courses

##### Follow-up to the focus chosen in first year

##### Teaching focus

AESS0246-1	<i>Analysis of scholastic institutions and key-players, educational policies</i> - Dominique LAFONTAINE - Suppl : MarieThérèse DELHOUNE	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> - <i>Observation placements</i> - Marguerite GILOT - [10h Internship] - <i>Teaching placements</i> - Marguerite GILOT - [20h Internship] - <i>Reflexive practical work</i> - Marguerite GILOT	TA	-	-	[+]	3
AESS2214-1	<i>Special didactics in mathematics : course and exercises (2nd part)</i> - Marguerite GILOT	TA	35	-	-	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	-	-	[+]	5

#### Compulsory courses

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

#### Optional courses

Choose courses totalling 8 ECTS from the following :

[...] Maximum 8 credits of courses not taken in the 1st year in the first list

[...] Maximum 8 credits of courses not taken in the 1st year in the second list

[...] Maximum 8 credits in others master courses programme

**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
MATH0065-1	<i>Probability and statistics IV</i> (english language) - Yvik SWAN - [20h Mon. WS]	Q2	30	10	[+]	8
MATH0489-1	<i>Lie algebra</i> - Pierre MATHONET - [20h Mon. WS]	Q2	30	10	[+]	8

**The second list**

STAT0723-2	<i>Linear models</i> - - Suppl : Catherine TIMMERMANS - [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, Part 1: Introduction</i> - Yves DE ROP	Q1	20	-	-	2
SPAT0012-2	<i>General relativity, Part 2: Mathematics methods</i> - Yves DE ROP	Q1	20	-	-	3
SPAT0012-3	<i>General relativity, Part 3: supplement</i> - Yves DE ROP	Q2	20	-	-	3
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]	Q1	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