

## First Year

### Compulsory course

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

### Optional courses

With the approval of the Board of Studies in mathematics, choose courses totaling 56 credits from the two lists below, and possibly in the courses programme of other masters :

#### First list

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

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

#### The second list

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

|            |  |    |    |     |   |
|------------|--|----|----|-----|---|
| STAT0723-2 | <i>Statistical linear models</i> - Paul GÉRARD - [20h Mon. WS]                               | 30 | 10 | [+] | 8 |
| MATH0221-3 | <i>Analysis of time series</i> - Paul GÉRARD - [20h Mon. WS]                                 | 30 | 10 | [+] | 8 |
| STAT0201-3 | <i>Multivariate statistics</i> - Adelin ALBERT - Suppl : Gentiane HAESBROECK - [20h Mon. WS] | 30 | 10 | [+] | 8 |
| INFO0902-1 | <i>Data structures and algorithms</i> - N... - Suppl : Sébastien COLLETTE                    | 30 | 30 | -   | 8 |
| INFO0054-1 | <i>Functional programming</i> - Pascal GRIBOMONT   | 30 | 30 | -   | 8 |
| ASTR0201-3 | <i>Astronomy</i> - Marc-Antoine DUPRET - [20h Mon. WS]                                       | 30 | 10 | [+] | 8 |
| PHYS0243-2 | <i>Quantum Physics I</i> - Thierry BASTIN - [20h Mon. WS]                                    | 30 | 10 | [+] | 8 |
| PHYS0203-2 | <i>Statistical physics</i> - Nicolas VANDEWALLE - [20h Mon. WS]                              | 30 | 10 | [+] | 8 |
| SPAT0012-1 | <i>General relativity I</i> - - Suppl : Yves DE ROP  | 60 | -  | -   | 8 |
| SPAT0044-1 | <i>Stellar Structure and evolution I</i> - Marc-Antoine DUPRET                               | 20 | 20 | -   | 4 |
| SPAT0045-1 | <i>Stellar structure and evolution II</i> - Marc-Antoine DUPRET                              | 20 | 20 | -   | 4 |
| MECA0203-3 | <i>Continuum Mechanics</i> - Pierre DAUBY - [20h Mon. WS]                                    | 30 | 10 | [+] | 8 |
| PHYS0204-3 | <i>Quantum Physics II</i> - Thierry BASTIN - [20h Mon. WS]                                   | 30 | 10 | [+] | 8 |
| PHYS0205-2 | <i>Further Physical Statistics</i> - Nicolas VANDEWALLE - [20h Mon. WS]                      | 30 | 10 | [+] | 8 |

#### Programme of courses for other masters degrees

[...] At the most 8 credits of courses of the University of Liege

### Optional free course

|            |   |    |    |   |   |
|------------|---|----|----|---|---|
| AESS0252-1 | <i>Introduction to mathematics didactics</i> - Marguerite GILOT | 10 | 10 | - | 2 |
|------------|---|----|----|---|---|

## Second Year

### Compulsory course

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

### Optional courses

With the approval of the Board of Studies in mathematics, choose course(s) totaling 8 credits from :

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

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

[...] the remaining courses not taken on the second list

|            |  |    |    |     |          |
|------------|--|----|----|-----|----------|
| STAT0723-2 | <i>Statistical linear models</i> - Paul GÉRARD - [20h Mon. WS]                               | 30 | 10 | [+] | <b>8</b> |
| MATH0221-3 | <i>Analysis of time series</i> - Paul GÉRARD - [20h Mon. WS]                                 | 30 | 10 | [+] | <b>8</b> |
| STAT0201-3 | <i>Multivariate statistics</i> - Adelin ALBERT - Suppl : Gentiane HAESBROECK - [20h Mon. WS] | 30 | 10 | [+] | <b>8</b> |
| INFO0902-1 | <i>Data structures and algorithms</i> - N... - Suppl : Sébastien COLLETTE                    | 30 | 30 | -   | <b>8</b> |
| INFO0054-1 | <i>Functional programming</i> - Pascal GRIBOMONT   | 30 | 30 | -   | <b>8</b> |
| ASTR0201-3 | <i>Astronomy</i> - Marc-Antoine DUPRET - [20h Mon. WS]                                       | 30 | 10 | [+] | <b>8</b> |
| PHYS0243-2 | <i>Quantum Physics I</i> - Thierry BASTIN - [20h Mon. WS]                                    | 30 | 10 | [+] | <b>8</b> |
| PHYS0203-2 | <i>Statistical physics</i> - Nicolas VANDEWALLE - [20h Mon. WS]                              | 30 | 10 | [+] | <b>8</b> |
| SPAT0012-1 | <i>General relativity I</i> - - Suppl : Yves DE ROP  | 60 | -  | -   | <b>8</b> |
| SPAT0044-1 | <i>Stellar Structure and evolution I</i> - Marc-Antoine DUPRET                               | 20 | 20 | -   | <b>4</b> |
| SPAT0045-1 | <i>Stellar structure and evolution II</i> - Marc-Antoine DUPRET                              | 20 | 20 | -   | <b>4</b> |
| MECA0203-3 | <i>Continuum Mechanics</i> - Pierre DAUBY - [20h Mon. WS]                                    | 30 | 10 | [+] | <b>8</b> |
| PHYS0204-3 | <i>Quantum Physics II</i> - Thierry BASTIN - [20h Mon. WS]                                   | 30 | 10 | [+] | <b>8</b> |
| PHYS0205-2 | <i>Further Physical Statistics</i> - Nicolas VANDEWALLE - [20h Mon. WS]                      | 30 | 10 | [+] | <b>8</b> |
| [...]      | The programme of courses for other Masters.  |    |    |     |          |

#### Compulsory courses

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

#### Optional courses

With the agreement of the council of studies, choose 1 among the following :

|            |   |    |    |     |           |
|------------|---|----|----|-----|-----------|
| MATH0467-1 | <i>Functional Analysis II</i> - Françoise BASTIN - [20h Mon. WS]              | 30 | 10 | [+] | <b>10</b> |
| MATH0468-1 | <i>Algebraic Analysis</i> - Jean-Pierre SCHNEIDERS - [20h Mon. WS]            | 30 | 10 | [+] | <b>10</b> |
| MATH0469-1 | <i>Differential geometry III</i> - Pierre LECOMTE - [20h Mon. WS]             | 30 | 10 | [+] | <b>10</b> |
| MATH0234-2 | <i>Boolean Topology and Boolean Algebra</i> - Georges HANSOUL - [20h Mon. WS] | 30 | 10 | [+] | <b>10</b> |
| MATH0470-1 | <i>Combinatorics on words</i> - Michel RIGO - [20h Mon. WS]                   | 30 | 10 | [+] | <b>10</b> |