

#### Block view of the study programme

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#### Block 1

Depending on your track record or your professional/research focus, some prerequisites/corequisites of your first year program might appear in bloc 2. You are therefore invited to go through the list of courses suggested in bloc 2 even if you enroll for the first time in this master program.

To complete their curriculum, students must earn or validate the 55 credits of the compulsory courses (including the master thesis), 30 credits technical training and 35 credits optional courses (30 of which counts towards the professional focus). Ideally, students enrolling in the master program should have acquired the skills and knowledge corresponding to the 40 credits in "Biomedical" offered as part of the bachelor program in engineering.

#### Elective courses

##### Professional focus

|            |  |    |    |    |     |    |
|------------|--|----|----|----|-----|----|
| GBIO0029-1 | <i>Bioelectronics</i> (english language) - JeanMichel REDOUTÉ - [20h Labo., 20h Proj.]   | Q1 | 30 | 15 | [+] | 5  |
| GBIO0012-2 | <i>Biomechanics</i> (english language) - Davide RUFFONI - [1d FW]  | Q1 | 26 | 26 | [+] | 5  |
| GBIO0008-2 | <i>Medical imaging</i> (english language) - Christophe PHILLIPS - [8h Labo., 1d FW]  | Q2 | 33 | 12 | [+] | 5  |
| GBIO0027-1 | <i>Integrated project in biomedical engineering</i> (english language) - Liesbet GERIS, Davide RUFFONI<br><b>Corequisite :</b><br>GBIO0001-1 - Biophysique et biochimie<br>GBIO0025-1 - Biologie générale et cellulaire<br>GBIO0026-1 - Physiologie des systèmes | TA | 30 | 90 | -   | 10 |
| GEST3162-1 | <i>Principles of management</i> (english language) - François PICHAULT, Willem STANDAERT - [25h Proj.]   | Q1 | 30 | -  | [+] | 5  |

##### Technical courses

Choose one of the following options:

##### Electronics

Choose 25 credits in the following list :

[...] The subjects GBIO0001-1, GBIO0025-1 et GBIO0026-1 are corequisite to some compulsory courses of the master program. They must be taken as a priority, unless they were already taken as part of the bachelor in engineering, or unless the corresponding knowledge and skills have been acquired previously.

|            |  |    |    |    |     |   |
|------------|--|----|----|----|-----|---|
| SYST0017-1 | <i>Advanced topics in systems and control</i> (english language) - Guillaume DRION   | Q1 | 26 | 26 | -   | 5 |
| SYST0003-1 | <i>Linear control systems</i> (english language)<br>- Theory - Guillaume DRION<br>- Control system design in time domain and frequency domain - Guillaume DRION - [6h Labo.] | Q1 | 26 | 6  | -   | 5 |
| ELEN0074-1 | <i>Sensors, microsensors and instrumentation</i> (english language) - Philippe VANDERBEMDEN - [20h Labo.]  | Q2 | 30 | -  | [+] | 5 |
| ELEN0071-1 | <i>Applied digital signal processing</i> (english language) - Pierre SACRÉ - [40h Proj.]   | Q2 | 39 | 13 | [+] | 5 |
| ELEN0037-1 | <i>Microelectronics and IC design</i> (english language) - JeanMichel REDOUTÉ - [40h Proj.]  | Q2 | 30 | 20 | [+] | 5 |
| INFO0064-2 | <i>Embedded systems</i> (english language) - Bernard BOIGELOT  | Q1 | 25 | 20 | -   | 3 |
| INFO2055-1 | <i>Embedded systems project</i> (english language) - Bernard BOIGELOT - [60h Proj.]  | Q2 | -  | -  | [+] | 2 |

##### Informatics

Choose 25 credits in the following list :

[...] The subjects GBIO0001-1, GBIO0025-1 et GBIO0026-1 are corequisite to some compulsory courses of the master program. They must be taken as a priority, unless they were already taken as part of the bachelor in engineering, or unless the corresponding knowledge and skills have been acquired previously.

|            |   |    |    |    |     |   |
|------------|---|----|----|----|-----|---|
| SYST0003-1 | <i>Linear control systems</i> (english language)<br>- Theory - Guillaume DRION<br>- Control system design in time domain and frequency domain -<br>Guillaume DRION - [6h Labo.] | Q1 | 26 | 6  | -   | 5 |
| INFO0939-1 | <i>High performance scientific computing</i> (english language) -<br>Christophe GEUZAIN - [20h Proj.]   | Q1 | 30 | 15 | [+] | 5 |
| MATH0462-1 | <i>Discrete optimization</i> (english language) - Quentin LOUVEAUX - [25h<br>Proj.]   | Q2 | 30 | 20 | [+] | 5 |
| ELEN0060-2 | <i>Information and coding theory</i> (english language) - Louis WEHENKEL -<br>[30h Proj.]   | Q2 | 30 | 15 | [+] | 5 |
| ELEN0071-1 | <i>Applied digital signal processing</i> (english language) - Pierre SACRÉ -<br>[40h Proj.]   | Q2 | 39 | 13 | [+] | 5 |
| ELEN0062-1 | <i>Introduction to machine learning</i> (english language) - Pierre GEURTS,<br>Louis WEHENKEL - [40h Proj.]   | Q1 | 30 | 5  | [+] | 5 |

#### Mechanical Engineering

Choose 25 credits in the following list :

[...] The subjects GBIO0001-1, GBIO0025-1 et GBIO0026-1 are corequisite to some compulsory courses of the master program. They must be taken as a priority, unless they were already taken as part of the bachelor in engineering, or unless the corresponding knowledge and skills have been acquired previously.

|            |   |    |    |    |     |   |
|------------|---|----|----|----|-----|---|
| MECA0036-2 | <i>Finite Element Method</i> (english language) - JeanPhilippe PONTHOT -<br>[40h Proj.]                               | Q2 | 26 | 26 | [+] | 5 |
| MECA0031-2 | <i>Kinematics and dynamics of mechanisms</i> (english language) -<br>Olivier BRULS - [40h Proj.]                      | Q2 | 30 | 20 | [+] | 5 |
| MECA0008-1 | <i>Microfluidics</i> (english language) - Tristan GILET - [16h Labo., 14h<br>Proj.]                                   | Q2 | 22 | 8  | [+] | 5 |
| MECA0010-1 | <i>Reliability and stochastic modeling of engineering systems</i> (english<br>language) - Maarten ARNST - [28h Proj.] | Q1 | 16 | 16 | [+] | 5 |
| MECA0462-2 | <i>Materials selection</i> (english language) - Anne MERTENS,<br>Davide RUFFONI - [30h Proj., 1d FW]                  | Q1 | 26 | 26 | [+] | 5 |
| MECA0139-1 | <i>Additive manufacturing and 3D printing</i> (english language) -<br>Anne MERTENS                                    | Q1 | 26 | 26 | -   | 5 |

#### Chemistry/Materials

Choose 25 credits in the following list :

[...] The subjects GBIO0001-1, GBIO0025-1 et GBIO0026-1 are corequisite to some compulsory courses of the master program. They must be taken as a priority, unless they were already taken as part of the bachelor in engineering, or unless the corresponding knowledge and skills have been acquired previously.

|            |   |    |    |    |     |   |
|------------|---|----|----|----|-----|---|
| CHIM0604-2 | <i>Chemistry and organic materials</i> - Lionel DELAUDE   | Q2 | 33 | 19 | -   | 5 |
| CHIM9277-1 | <i>Chemical reactor engineering</i> - Dominique TOYE - [15h Labo.]                              | Q1 | 35 | 15 | [+] | 4 |
| CHIM0072-2 | <i>Nanomaterials and divided materials engineering</i> - Benoît HEINRICHS,<br>Stéphanie LAMBERT | Q1 | 15 | 15 | -   | 3 |
| MECA0139-1 | <i>Additive manufacturing and 3D printing</i> (english language) -<br>Anne MERTENS              | Q1 | 26 | 26 | -   | 5 |

|            |   |    |    |    |     |   |
|------------|---|----|----|----|-----|---|
| MECA0462-2 | <i>Materials selection</i> (english language) - Anne MERTENS, Davide RUFFONI - [30h Proj., 1d FW] | Q1 | 26 | 26 | [+] | 5 |
|------------|---|----|----|----|-----|---|

|            |   |    |    |    |     |   |
|------------|---|----|----|----|-----|---|
| PHYS0904-4 | <i>Physics of materials</i> - Luc COURARD, Anne MERTENS - [1d FW] | Q2 | 26 | 26 | [+] | 5 |
|------------|---|----|----|----|-----|---|

Choose 5 credits:

[...] The remaining credits (5 ECTS) can be chosen in amongst the optional or technical courses that have not yet been followed

#### Block 2

Depending on your track record or your professional/research focus, some prerequisites/corequisites of your first year program might appear in bloc 2. You are therefore invited to go through the list of courses suggested in bloc 2 even if you enroll for the first time in this master program.

#### Compulsory Courses

|            |   |    |   |   |     |    |
|------------|---|----|---|---|-----|----|
| ATFE0016-1 | <i>Master thesis (including introduction to research methodology)</i> - Davide RUFFONI - [750h Proj.] | TA | - | - | [+] | 25 |
|------------|---|----|---|---|-----|----|

#### Elective courses

##### Single focus

##### Technical courses

Choose one of the following options:

##### Electronics

Choose 5 credits in the following list to complete the option chosen :

|            |  |    |    |    |     |   |
|------------|--|----|----|----|-----|---|
| SYST0017-1 | <i>Advanced topics in systems and control</i> (english language) - Guillaume DRION   | Q1 | 26 | 26 | -   | 5 |
| SYST0003-1 | <i>Linear control systems</i> (english language)<br>- Theory - Guillaume DRION<br>- Control system design in time domain and frequency domain - Guillaume DRION - [6h Labo.] | Q1 | 26 | 6  | -   | 5 |
| ELEN0074-1 | <i>Sensors, microsensors and instrumentation</i> (english language) - Philippe VANDERBEMDEN - [20h Labo.]  | Q2 | 30 | -  | [+] | 5 |
| ELEN0071-1 | <i>Applied digital signal processing</i> (english language) - Pierre SACRÉ - [40h Proj.]   | Q2 | 39 | 13 | [+] | 5 |
| ELEN0037-1 | <i>Microelectronics and IC design</i> (english language) - JeanMichel REDOUTÉ - [40h Proj.]  | Q2 | 30 | 20 | [+] | 5 |
| INFO0064-2 | <i>Embedded systems</i> (english language) - Bernard BOIGELOT  | Q1 | 25 | 20 | -   | 3 |
| INFO2055-1 | <i>Embedded systems project</i> (english language) - Bernard BOIGELOT - [60h Proj.]  | Q2 | -  | -  | [+] | 2 |

##### Informatics

Choose 5 credits in the following list to complete the option chosen :

|            |  |    |    |    |     |   |
|------------|--|----|----|----|-----|---|
| SYST0003-1 | <i>Linear control systems</i> (english language)<br>- Theory - Guillaume DRION<br>- Control system design in time domain and frequency domain - Guillaume DRION - [6h Labo.] | Q1 | 26 | 6  | -   | 5 |
| INFO0939-1 | <i>High performance scientific computing</i> (english language) - Christophe GEUZAINÉ - [20h Proj.]  | Q1 | 30 | 15 | [+] | 5 |
| MATH0462-1 | <i>Discrete optimization</i> (english language) - Quentin LOUVEAUX - [25h Proj.]   | Q2 | 30 | 20 | [+] | 5 |
| ELEN0060-2 | <i>Information and coding theory</i> (english language) - Louis WEHENKEL - [30h Proj.]   | Q2 | 30 | 15 | [+] | 5 |

|            |  |    |    |    |     |   |
|------------|--|----|----|----|-----|---|
| ELEN0071-1 | <i>Applied digital signal processing</i> (english language) - Pierre SACRÉ - [40h Proj.]                 | Q2 | 39 | 13 | [+] | 5 |
| ELEN0062-1 | <i>Introduction to machine learning</i> (english language) - Pierre GEURTS, Louis WEHENKEL - [40h Proj.] | Q1 | 30 | 5  | [+] | 5 |

#### Mechanical Engineering

Choose 5 credits in the following list to complete the option chosen :

|            |  |    |    |    |     |   |
|------------|--|----|----|----|-----|---|
| MECA0036-2 | <i>Finite Element Method</i> (english language) - JeanPhilippe PONTHOT - [40h Proj.]                               | Q2 | 26 | 26 | [+] | 5 |
| MECA0031-2 | <i>Kinematics and dynamics of mechanisms</i> (english language) - Olivier BRULS - [40h Proj.]                      | Q2 | 30 | 20 | [+] | 5 |
| MECA0008-1 | <i>Microfluidics</i> (english language) - Tristan GILET - [16h Labo., 14h Proj.]                                   | Q2 | 22 | 8  | [+] | 5 |
| MECA0010-1 | <i>Reliability and stochastic modeling of engineering systems</i> (english language) - Maarten ARNST - [28h Proj.] | Q1 | 16 | 16 | [+] | 5 |
| MECA0462-2 | <i>Materials selection</i> (english language) - Anne MERTENS, Davide RUFFONI - [30h Proj., 1d FW]                  | Q1 | 26 | 26 | [+] | 5 |
| MECA0139-1 | <i>Additive manufacturing and 3D printing</i> (english language) - Anne MERTENS                                    | Q1 | 26 | 26 | -   | 5 |

#### Chemistry/Materials

Choose 5 credits in the following list to complete the option chosen :

|            |  |    |    |    |     |   |
|------------|--|----|----|----|-----|---|
| CHIM0604-2 | <i>Chemistry and organic materials</i> - Lionel DELAUDE  | Q2 | 33 | 19 | -   | 5 |
| CHIM9277-1 | <i>Chemical reactor engineering</i> - Dominique TOYE - [15h Labo.]   | Q1 | 35 | 15 | [+] | 4 |
| CHIM0072-2 | <i>Nanomaterials and divided materials engineering</i> - Benoît HEINRICH, Stéphanie LAMBERT  | Q1 | 15 | 15 | -   | 3 |
| MECA0139-1 | <i>Additive manufacturing and 3D printing</i> (english language) - Anne MERTENS  | Q1 | 26 | 26 | -   | 5 |
| MECA0462-2 | <i>Materials selection</i> (english language) - Anne MERTENS, Davide RUFFONI - [30h Proj., 1d FW]  | Q1 | 26 | 26 | [+] | 5 |
| PHYS0904-4 | <i>Physics of materials</i> - Luc COURARD, Anne MERTENS - [1d FW]  | Q2 | 26 | 26 | [+] | 5 |
| CHIM9319-1 | <i>Macromolecules and Polymerisation processes</i> (english language) - Antoine DEBUIGNE, AnneSophie DUWEZ, Klaus KECKANTOINE - [10h Proj., 12h Labo.] | Q2 | 30 | -  | [+] | 5 |

#### Other optionnal courses and Internship

Choose 30 credits from the following list. The thematic structuring is indicative only.

Compulsory internship (choose between the 3 ECTS and 8 ECTS version)

|            |  |    |   |   |   |   |
|------------|--|----|---|---|---|---|
| ASTG0024-1 | <i>Immersion internship</i> (english language) - Liesbet GERIS   | TA | - | - | - | 8 |
| ASTG9007-1 | <i>Observation internship</i> (english language) - Liesbet GERIS | TA | - | - | - | 3 |

#### Imaging and instrumentation

|            |   |    |    |    |     |   |
|------------|---|----|----|----|-----|---|
| MATH0049-1 | <i>Morphological Characterization of Unordered Systems</i> - Silvia BLACHER                       | Q1 | 26 | 26 | -   | 5 |
| ELEN0071-1 | <i>Applied digital signal processing</i> (english language) - Pierre SACRÉ - [40h Proj.]          | Q2 | 39 | 13 | [+] | 5 |
| ELEN0004-1 | <i>Semiconductor devices</i> (english language) - Benoît VANDERHEYDEN                             | Q1 | 26 | 26 | -   | 5 |
| MATH0461-2 | <i>Introduction to numerical optimization</i> (english language) - Quentin LOUVEAUX - [25h Proj.] | Q1 | 30 | 20 | [+] | 5 |
| ELEN0016-2 | <i>Computer vision</i> (english language) - Marc VAN DROOGENBROECK - [50h                         | Q1 | 30 | 10 | [+] | 5 |

|   | Proj.]   |    |    |    |     |   |  |  |  |
|---|--|----|----|----|-----|---|--|--|--|
| ELEC0017-1                                | <i>Electromagnetic Compatibility</i> (english language) - Véronique BEAUVOIS, Christophe GEUZAINÉ - [30h Proj.]                        | TA | 20 | 10 | [+] | 5 |  |  |  |
| PHYS0128-1                                | <i>Magnetic Resonance Imaging - the Basics</i> (english language) - N... - Suppl : Laurent LAMALLE - [3d FW]                           | Q2 | 15 | -  | [+] | 3 |  |  |  |
| ELEC0041-1                                | <i>Modelling and design of electromagnetic systems</i> (english language) - Christophe GEUZAINÉ  | Q2 | 26 | 26 | -   | 5 |  |  |  |
| ELEC0054-1                                | <i>Application of electrical measurement systems</i> (english language) - Philippe VANDERBEMDEN - [20h Labo.]                          | Q1 | 30 | 10 | [+] | 5 |  |  |  |
| ELEN0062-1                                | <i>Introduction to machine learning</i> (english language) - Pierre GEURTS, Louis WEHENKEL - [40h Proj.]                               | Q1 | 30 | 5  | [+] | 5 |  |  |  |
| STAT0722-1                                | <i>Introduction to medical statistics</i> (english language) - Christophe PHILLIPS   | Q1 | 10 | 5  | -   | 2 |  |  |  |
| INFO0009-2                                | <i>Database (general organisation)</i> - Christophe DEBRUYNE - [25h Proj.]   | Q2 | 26 | 26 | [+] | 5 |  |  |  |
| SYST0020-1                                | <i>Introduction to microsystems and microtechnology</i> (english language) - Tristan GILET, JeanMichel REDOUTÉ - [4h Labo., 20h Proj.] | Q2 | 24 | 18 | [+] | 5 |  |  |  |
| <b>Mechanics, materials and chemistry</b> |  |    |    |    |     |   |  |  |  |
| PROT0430-3                                | <i>Biomedical robotics and active prostheses</i> (english language) - Olivier BRULS (Odd years)  | Q1 | 15 | 10 | -   | 3 |  |  |  |
| MECA0516-1                                | <i>Mechanical properties of biological and bioinspired materials</i> (english language) - Davide RUFFONI - [4h Labo.]                  | Q1 | 26 | 22 | [+] | 5 |  |  |  |
| CHIM0625-1                                | <i>Molecular mechanics and molecular dynamics</i> - Frédéric KERFF   | Q1 | 10 | 10 | -   | 2 |  |  |  |
| MECA0464-1                                | <i>Large deformation of solids</i> (english language) - Romain BOMAN, JeanPhilippe PONTHOT - [60h Proj.]                               | Q1 | 26 | 26 | [+] | 5 |  |  |  |
| MECA0446-2                                | <i>Continuum Mechanics</i> (english language) - JeanPhilippe PONTHOT - [50h Proj.]   | Q2 | 26 | 26 | [+] | 5 |  |  |  |
| MECA0025-3                                | <i>Fluid Mechanics</i> - Eric DELHEZ - [30h Proj.]   | Q2 | 26 | 26 | [+] | 5 |  |  |  |
| MECA0018-2                                | <i>Manufacturing processes</i> (english language) - Yves MARCHAL - [15h Labo., 11h Proj., 0,5d FW]                                     | Q2 | 30 | -  | [+] | 5 |  |  |  |
| CHIM0698-1                                | <i>Physical Chemistry of Interfaces</i> (english language) - Cédric GOMMES   | Q2 | 20 | 10 | -   | 3 |  |  |  |
| PHYS0038-2                                | <i>Introduction into polymer physics including plasturgy</i> (english language) - Klaus KECKANTOINE, Klaus KECKANTOINE                 | Q1 | 30 | -  | -   | 4 |  |  |  |
| CHIM9318-1                                | <i>Inorganic materials: manufacturing processes and properties of use</i> - Stéphanie LAMBERT - [12h Labo.]                            | Q2 | 20 | 20 | [+] | 5 |  |  |  |
| BIOL0114-3                                | <i>Electronic microscopies</i><br>- Part A - Philippe COMPÈRE<br>- Part B - Philippe COMPÈRE   | Q2 | 15 | -  | -   | 5 |  |  |  |
| CHIM0668-1                                | <i>Agitation and mixture</i> - Dominique TOYE - [5h Labo.]   | Q1 | 30 | 5  | [+] | 4 |  |  |  |
| MECA0473-1                                | <i>Metallic materials engineering</i> - Anne MERTENS   | Q1 | 26 | 26 | -   | 5 |  |  |  |
| CHIM0697-1                                | <i>Heterogeneous catalysis</i> (english language) - Nathalie JOB - [10h Proj.]   | Q1 | 20 | 20 | [+] | 4 |  |  |  |
| MECA0012-6                                | <i>Solid mechanics</i> - Laurent DUCHENE - [15h Proj.]   | Q2 | 26 | 26 | [+] | 5 |  |  |  |
| MECA0023-1                                | <i>Advanced solid mechanics</i> (english language) - JeanPhilippe PONTHOT - [30h Proj.]  | Q1 | 26 | 26 | [+] | 5 |  |  |  |
| <b>Modeling and informatics</b>           |  |    |    |    |     |   |  |  |  |
| GBIO0014-2                                | <i>Modeling of physiological systems and clinical applications</i> - Thomas DESAIVE  | Q1 | 30 | 30 | -   | 4 |  |  |  |
| GBIO0015-1                                | <i>A tour in genetic epidemiology</i> (english language) - Kristel VAN STEEN - [60h Proj.]   | Q2 | 15 | 15 | [+] | 3 |  |  |  |

|                               |   |    |    |    |     |   |
|-------------------------------|---|----|----|----|-----|---|
| BIOC0718-2                    | <i>Structure-function of biomolecules</i> - Mireille DUMOULIN   | Q2 | 15 | 25 | -   | 4 |
| GBIO0030-1                    | <i>Computational approaches to statistical generics</i> (english language) - Kristel VAN STEEN - [35h Proj.]  | Q2 | 25 | 15 | [+] | 5 |
| MATH0024-1                    | <i>Modelling with partial differential equations</i> (english language) - Maarten ARNST, Romain BOMAN - [25h Proj.]   | Q1 | 30 | 20 | [+] | 5 |
| INFO0939-1                    | <i>High performance scientific computing</i> (english language) - Christophe GEUZAINÉ - [20h Proj.]   | Q1 | 30 | 15 | [+] | 5 |
| MECA0036-2                    | <i>Finite Element Method</i> (english language) - JeanPhilippe PONTHOT - [40h Proj.]  | Q2 | 26 | 26 | [+] | 5 |
| MATH0461-2                    | <i>Introduction to numerical optimization</i> (english language) - Quentin LOUVEAUX - [25h Proj.]   | Q1 | 30 | 20 | [+] | 5 |
| MATH0471-2                    | <i>Multiphysics integrated computational project</i> (english language) - Romain BOMAN, Christophe GEUZAINÉ - [30h Proj.]   | TA | 33 | -  | [+] | 5 |
| INFO0009-2                    | <i>Database (general organisation)</i> - Christophe DEBRUYNE - [25h Proj.]  | Q2 | 26 | 26 | [+] | 5 |
| ELEN0060-2                    | <i>Information and coding theory</i> (english language) - Louis WEHENKEL - [30h Proj.]  | Q2 | 30 | 15 | [+] | 5 |
| GBIO0031-1                    | <i>Learning from genomic data</i> (english language) - Kristel VAN STEEN - [150h Proj.]   | Q2 | -  | -  | [+] | 5 |
| INFO0064-2                    | <i>Embedded systems</i> (english language) - Bernard BOIGELOT   | Q1 | 25 | 20 | -   | 3 |
| <b>Biomedical engineering</b> |   |    |    |    |     |   |
| GBIO0018-2                    | <i>Introduction to tissue engineering</i> (english language) - Liesbet GERIS - [15h Proj.]  | Q2 | 20 | 5  | [+] | 3 |
| BIOC0430-1                    | <i>Interaction of living material</i> - Christian GRANDFILS   | Q1 | 25 | -  | -   | 3 |
| GBIO0022-1                    | <i>Biomimicry</i> (english language) - Philippe COMPÈRE, Liesbet GERIS, Tristan GILET, Davide RUFFONI - [45h Proj.]   | TA | 15 | -  | [+] | 5 |
| INGE0012-1                    | <i>Scientific research in engineering and its impact on innovation</i> (english language) - Rodolphe SEPULCHRE  | Q2 | 26 | 26 | -   | 5 |
| BIOM0631-1                    | <i>Human movement analysis</i> (english language) - Olivier BRULS, Cédric SCHWARTZ - [15h Proj.]  | Q1 | 33 | 14 | [+] | 5 |
| GBIO0016-1                    | <i>Introduction to systems and synthetic biology</i> (english language) - Frank DELVIGNE, JeanDenis DOCQUIER, Philippe JACQUES  | Q2 | 26 | 26 | -   | 5 |
| LABO0432-1                    | <i>Techniques for cells and tissue cultures</i> - Erik MAQUOI   | Q1 | 8  | 20 | -   | 2 |
| SBIM0495-2                    | <i>Molecular and cellular basis of disease</i> (english language) - Jo CAERS, Pierre CLOSE, Charlotte CORNIL, Laurence DELACROIX, Mireille DUMOULIN, Keith DURKIN, Julien HANSON, François JOURET, Vincent SEUTIN, Sabine WISLET - [40h Pers. Res.] | Q2 | 20 | 10 | [+] | 7 |
| PROJ0011-2                    | <i>Personal student project</i> (english language) - Georges DE PELSEMAEKER, Pierre DUYSINX, Liesbet GERIS, Grégoire LÉONARD - [150h Proj.]   | TA | -  | -  | [+] | 5 |

[...] With the agreement of the jury, choose 5 credits in any course programme of the University

#### Bloc d'aménagement du programme de l'année

### Additional ECTS Master in biomedical engineering

#### Optional courses

Each student's programme will be determined by the jury depending on their prior training. If an applicant does not meet certain prerequisites, his or her programme may include up to 60 additional course credits essentially taken from the list below :

|            |  |    |    |    |     |   |
|------------|--|----|----|----|-----|---|
| GBIO0025-1 | <i>General and cell biology</i> - Christel PEQUEUX   | Q2 | 26 | 26 | -   | 5 |
| GBIO0026-1 | <i>Systems physiology</i> - Philippe KOLH  | Q2 | 26 | 26 | -   | 5 |
| GBIO0002-1 | <i>Genetics and bioinformatics</i> (english language) - Franck DEQUIEDT, Kristel VAN STEEN - [15h Proj.] | Q1 | 30 | 15 | [+] | 5 |
| GBIO0011-1 | <i>Biological Systems Modelling</i> - Pierre DAUBY, Liesbet GERIS  | Q2 | 26 | 26 | -   | 5 |
| GBIO0001-1 | <i>Biophysics and Biochemistry</i> - Mireille DUMOULIN, Liesbet GERIS - [6h Proj.]                       | Q1 | 29 | 23 | [+] | 5 |
| GBIO0021-1 | <i>Laboratory Project</i> - Thomas DESAIVE, Liesbet GERIS - [16h Labo., 8h Proj.]                        | TA | -  | 44 | [+] | 5 |
| GBIO0013-1 | <i>Phenomenon of Transport in Biology</i> - Dominique TOYE   | Q2 | 26 | 26 | -   | 5 |
| GBIO0005-1 | <i>Introduction to cognitive neurosciences</i> - Gilles VANDEWALLE                                       | Q1 | 26 | 26 | -   | 5 |

[...] To this list may be added, up to a limit of 60 credits, other technical classes depending on the skills the student has acquired.

#### Basics in bioengineering

|            |  |    |    |    |     |   |
|------------|--|----|----|----|-----|---|
| GBIO0001-1 | <i>Biophysics and Biochemistry</i> - Mireille DUMOULIN, Liesbet GERIS - [6h Proj.] | Q1 | 29 | 23 | [+] | 5 |
| GBIO0025-1 | <i>General and cell biology</i> - Christel PEQUEUX                                 | Q2 | 26 | 26 | -   | 5 |
| GBIO0026-1 | <i>Systems physiology</i> - Philippe KOLH  | Q2 | 26 | 26 | -   | 5 |