Study programmes 2016-2017

Faculty of Sciences

Master in bio-informatics and modelling (120 ECTS)

Block view of the study programme

		Or	Th	Pr	Au	Cr
Block 1						
Compulsory courses						
INFO0098-2	*Introduction to the modeling of biological systems* - Patrick MEYER - [25h Mon. WS]	Q2	25	-	[+]	**6**
ELEN0062-1	*Introduction to machine learning* (english language) - Pierre GEURTS, Louis WEHENKEL - [40h Proj.]	Q1	30	5	[+]	**6**
GBIO0009-1	*Topics in bioinformatics* (english language) - Kristel VAN STEEN - [35h Proj.]	Q1	25	15	[+]	**6**
Optional courses						
Choose one module among the following, according to the student's former training and in agreement of the Jury :						
Module for the Bachelors in Computer Science						
Refresher course						
BIOL0203-1	*Introduction to cell biology* - Marc THIRY	Q1	20	-	-	**2**
CHIM0632-1	*Chemistry* - André LUXEN	Q1	30	30	-	**6**
BIOC0002-2	*Biochemistry* - Paulette CHARLIER	Q2	30	40	-	**7**
CHIM0623-1	*Physical chemistry applied to biochemistry* - Edwin DE PAUW	Q1	10	10	-	**2**
GENE0210-3	*Genetics and molecular biology* - Marc MULLER	Q1	30	40	-	**7**
Specialisation courses						
INFO0004-2	*Object-oriented programming projects* (english language) - Laurent MATHY - [90h Proj.]	Q1	20	-	[+]	**6**
INFO0063-1	*Object-oriented software engineering* (english language) - Bernard BOIGELOT - [30h Proj.]	Q1	30	24	[+]	**6**
INFO0016-1	*Introduction to the theory of computation* (english language) - Pierre WOLPER	Q1	30	30	-	**6**
Module for the Bachelors in Chemical Sciences						
Refresher course						
INFO0062-1	*Object-oriented programming* (english language) - Bernard BOIGELOT - [20h Proj.]	Q2	30	24	[+]	**6**
INFO0902-1	*Data structures and algorithms* - Pierre GEURTS - [40h Proj.]	Q2	30	20	[+]	**6**
INFO0009-1	*Database (general organisation)* - Pierre WOLPER - [25h Proj.]	Q2	30	25	[+]	**6**
INFO0016-1	*Introduction to the theory of computation* (english language) - Pierre WOLPER	Q1	30	30	-	**6**
Specialisation courses						
BIOC0719-2	*Enzymology* - André MATAGNE	Q1	15	25	-	**5**
BIOC0712-1	*Interactions in biological macromolecules* - Moreno GALLENI	Q2	20	20	-	**5**
GENE0001-4	*Genetic engineering* - Jacques DOMMES	Q1	20	-	-	**3**
GENE0210-4	*Genetics and molecular biology* - Marc MULLER	Q1	20	20	-	**5**
Module for the Bachelors in Biological Sciences						
Refresher course						
INFO0062-1	*Object-oriented programming* (english language) - Bernard BOIGELOT - [20h Proj.]	Q2	30	24	[+]	**6**
INFO0902-1	*Data structures and algorithms* - Pierre GEURTS - [40h Proj.]	Q2	30	20	[+]	**6**

INFO0009-1	*Database (general organisation)* - Pierre WOLPER - [25h Proj.]	Q2	30	25	[+]	**6**
MATH0232-3	*General mathematics supplements* - Françoise BASTIN	Q1	30	30	-	**6**
Specialisation courses						
BIOC0719-2	*Enzymology* - André MATAGNE	Q1	15	25	-	**5**
BIOC0712-1	*Interactions in biological macromolecules* - Moreno GALLENI	Q2	20	20	-	**5**
GENE0001-4	*Genetic engineering* - Jacques DOMMES	Q1	20	-	-	**3**
GENE0448-2	*Phylogenetic methods* - Denis BAURAIN - [30h Mon. WS]	Q1	20	-	[+]	**5**

Block 2

Compulsory courses

STAT1750-1	*Multivariate statistical analysis* - Nadia DARDENNE, AnneFrançoise DONNEAU	Q1	10	15	-	**2**
CHIM0624-1	*Structure of biological macromolecules (general experimental aspects) : part a* - Paulette CHARLIER, Christian DAMBLON, Edwin DE PAUW	Q1	20	10	-	**3**
GBIO0015-1	*A tour in genetic epidemiology* (english language) - Kristel VAN STEEN - [60h Proj.]	Q2	15	15	[+]	**3**
GBIO0017-1	*Parametric identification of biological models* - Dominique TOYE	Q1	10	10	-	**2**
SMEM0023-1	*Final thesis* - COLLÉGIALITÉ	TA	-	-	-	**20**

Optional courses

Single focus

Research Focus

CHIM0625-1	*Molecular mechanics and molecular dynamics* - Eric SAUVAGE	Q1	10	10	-	**2**
GENE0442-1	*Genomics* - Michel GEORGES	Q1	10	10	-	**2**
GBIO0007-1	*Gene sequencing and protein analysis : part a* - Bernard JORIS	Q1	10	10	-	**2**
INFO0114-1	*Programming project* - Pierre GEURTS	TA	-	50	-	**5**
STRA0014-1	*Documentation and seminars* - Eric SAUVAGE, Louis WEHENKEL	TA	-	-	-	**3**

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

Structural Biology Module

CHIM0627-1	*Structure of biological macromolecules (experimental aspects) : part b1 (RX, NMR)* - Paulette CHARLIER, Christian DAMBLON	Q1	15	10	-	**3**
CHIM0628-1	*Structure of biological macromolecules (experimental aspects) part b2 (mass spectrometry)* - Edwin DE PAUW	Q1	15	10	-	**3**
CHIM0629-1	*Structure of biological macromolecules (experimental aspects) : part b3 (AFM)* - AnneSophie DUWEZ	Q1	10	10	-	**2**

Choose courses, with the approval of the Jury, totalling 8 credits among :

[...] the courses of the Systemic Biology module, Modelling of Macroscopic Systems Module and the list of complementary courses

[...] A course worth a maximum of 5 credits, chosen in agreement with Jury, from the programme of courses of the Faculty of Science, the Faculty of Applied Sciences, the Faculty of Medicine and the Faculty of Veterinary Medicine at ULg, or from the programme of courses for the second year of the Masters in Bioinformatics and Modelling organised in another university belonging to the French-speaking community in Belgium (ULB)

Systemic Biology Module

GBIO0016-1	*Introduction to systems and synthetic biology* (english language) -	Q2	30	30	-	**5**

	Frank DELVIGNE, Philippe JACQUES, Bernard JORIS					
GBIO0021-2	*Laboratory Project* - Thomas DESAIVE, Liesbet GERIS	Q2	-	40	-	**3**

Choose courses, with the approval of the Jury, totalling 8 credits among :

[...] the Structural Biology module, the Modelling of Macroscopic Systems module and the list of Complementary Courses

[...] A course worth a maximum of 5 credits, chosen in agreement with Jury, from the programme of courses of the Faculty of Science, the Faculty of Applied Sciences, the Faculty of Medicine and the Faculty of Veterinary Medicine at ULg, or from the programme of courses for the second year of the Masters in Bioinformatics and Modelling organised in another university belonging to the French-speaking community in Belgium (ULB)

Modelling of Macroscopic Systems Module

SYST0019-1	*Modelling of chemical systems* - Dominique TOYE	Q2	10	10	-	**2**
OCEA0073-1	*Numerical methods in geophysics, Part 1* - JeanMarie BECKERS	Q2	15	30	-	**4**
GENE0446-2	*Population genetics* - Johan MICHAUX, Claire REMACLE	Q1	25	15	-	**4**

Choose courses, with the approval of the Jury, totalling 6 credits among :

[...] the courses of the Structural Biology module, the courses of the Systemic Biology module and the list of complementary courses

[...] A course worth a maximum of 5 credits, chosen in agreement with Jury, from the programme of courses of the Faculty of Science, the Faculty of Applied Sciences, the Faculty of Medicine and the Faculty of Veterinary Medicine at ULg, or from the programme of courses for the second year of the Masters in Bioinformatics and Modelling organised in another university belonging to the French-speaking community in Belgium (ULB)

In accordance with the Jury, any course already taken by students as part of curriculum will be replaced by an equivalent course.

Bloc d'aménagement du programme de l'année

Complementary courses

CHIM0630-1	*Proteomics* - Edwin DE PAUW	Q2	10	10	-	**2**
GBIO0011-1	*Biological Systems Modelling* - Pierre DAUBY, Liesbet GERIS	Q2	30	30	-	**5**
GENE0444-1	*Genetic engineering of pluricellular eukaryotes* - Jacques DOMMES	Q2	15	-	-	**2**
GBIO0019-1	*Introduction to synthetic biology* (english language) - Frank DELVIGNE, Bernard JORIS	Q2	10	20	-	**3**