

Faculty of Sciences

Master of Science in Biology

Language of instruction: English

Programme version 9

## 1 General Courses 18 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C003345 Advanced Biostatistics Carl Vangestel -- Department of Biology	5		2	A:1	150
2	C003080 Programming Peter Dawyndt -- Department of Applied Mathematics and Computer Science	5	UKV	1	C:1	150
3	C003302 Academic Grant Writing Matthew Shawkey -- Department of Biology	3		1	A:2	90
4	C003334 Scientific Communication Danny Haelewaters -- Department of Biology	5		2	A:1	150

## 2 Minors 30 credits

Subscribe to 30 credit units from 1 minor from the following list. Subject to approval by the faculty.

One combination between minors and majors is possible:

- Minor Bio-inspired Innovation and Sustainability - Major General Biology
- Minor Research - Major Biodiversity and Evolutionary Biology
- Minor Research - Major Global Change Ecology
- Minor Research - Major Functional Biology

Distribution over the first standard learning path is depending on the major.

### 2.1 Minor Research 30 credits

Subscribe to 30 credit units from no less than 1 and no more than 2 modules from the following list. Subject to approval by the faculty.

#### 2.1.1 Elective Courses Research

Subscribe to no more than 30 credit units from the following list.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C004098 Professional Internship I [nl] Luc Lens -- Department of Biology	5		2	A:J	150
2	C004099 Professional Internship II [nl] Luc Lens -- Department of Biology	10		2	A:J	300
3	C004100 International Project Marleen De Troch -- Department of Biology	5			A:J	150
4	C002755 Biological Excursions in the Human Brain Robrecht Raedt -- Department of Head and Skin	5			A:2 <sup>a</sup>	135
5	C004082 Evolution of Primates and Paleo-anthropology Dominique Adriaens -- Department of Biology	3			(A:2) <sup>d</sup>	75
6	C002769 Immunology and Pathology Martin Guilliams -- Department of Molecular Biology	5			A:2	135
7	C002770 Insect Physiology [nl] Dirk de Graaf -- Department of Biochemistry, Physiology and Microbiology	5			(A:1) <sup>d</sup>	135
8	C002387 International Course Ann Vanreusel -- Department of Biology	5			A:J	150
9	C004466 Limnology Dirk Verschuren -- Department of Biology	4			A:2	120
10	C003874 Marine Ecology Ann Vanreusel -- Department of Biology	6			A:1	150

11	C002774	Microbial Ecology Anne Willems -- Department of Biochemistry, Physiology and Microbiology	5		(A:1) <sup>d</sup>	140
12	C002775	Molecular Plant Physiology Thomas Depaepe -- Department of Biology	5		A:1 <sup>a</sup>	135
13	C004412	Introduction to Multivariate Data Analysis Koen Sabbe -- Department of Biology	3			90
14	C002777	Mycology: Basidiomycota [nl] Annemieke Verbeken -- Department of Biology	5		A:1	135
15	C002778	Ornithology Luc Lens -- Department of Biology	5		(A:2) <sup>d</sup>	135
16	C004386	Phylogenetics and Evolution of Flowering Plants [nl] Lars Chatrou -- Department of Biology	5		A:2	145
17	C001045	Teledetection: Image Registration and Processing [nl] Rudi Goossens -- Department of Geography	5		A:2	150
18	E084760	Geographic Information Systems (partim) [nl] Nico Van de Weghe -- Department of Geography	3		A:1	90
19	C004081	Biodiversity of Aquatic Food Webs: from Algae to Marine Mammals Marleen De Troch -- Department of Biology	3		A:1	90
20	C004385	Laboratory Animal Science Kathleen Hermans -- Department of Pathobiology, Pharmacology and Zoological Medicine	9		A:J	270
21	C003306	Advanced Cell Biology Geert van Loo -- Department of Molecular Biology	5		A:1 <sup>a</sup>	150
22	C003307	Functional Diversity of Prokaryotes Anne Willems -- Department of Biochemistry, Physiology and Microbiology	4		A:1 <sup>a</sup>	120
23	I002457	Vegetation Science [nl] Lander Baeten -- Department of Environment	3		A:1	90
24	I002691	Nature Conservation [nl] Lander Baeten -- Department of Environment	4		A:1	120
25	C004009	History and Philosophy of Sciences [nl] Maarten Van Dyck -- Department of Philosophy and Moral Sciences	3		A:1	90
26	C004083	History and Philosophy of Biology Johan Braeckman -- Department of Philosophy and Moral Sciences	3		A:1	90
27	C004102	Practical Skills in Academic Biological Education [nl] Dominique Adriaens -- Department of Biology	3		A:J	90
28	C004103	Introduction to Biomimicry Liliana D'Alba Altamirano -- Department of Biology	3		A:1	90
29	C004411	Writing Academic Papers Danny Haelewaters -- Department of Biology	4		A:1	120
30	A005569	Global Minds Eric Vanhaute -- Department of History	5	UKV	A:2	150

### 2.1.2 Elective Courses UGent and other Universities

Subscribe to courses for no more than 30 credit units to be chosen from study programmes of UGent including the minor Bio-inspired Innovation and Sustainability, major General Biology, [the Ghent University elective courses](#) or from study programmes of other universities of the Flemish Community or (online) courses from [Erasmus+ partner universities](#). Of which at least 20 credits from the field of biology.

### 2.2 Minor Bio-inspired Innovation and Sustainability

30 credits

Subscribe to 14 credit units from no less than 1 and no more than 2 modules from the following list. Subject to approval by the faculty.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E076450 Basic Entrepreneurship [nl] Yannick Dillen -- Department of Marketing, Innovation and Organisation	3	UKV	1	A:1	90
2	E076460 Dare to Venture Johan Verrue -- Department of Marketing, Innovation and Organisation	4		1	A:2	120
3	C004101 Bio-inspired Project Matthew Shawkey -- Department of Biology	9		1	A:J	270

#### 2.2.1 Elective Courses

Subscribe to no less than 7 and no more than 14 credit units from the following list.

Nr	Course	CRDT	Ref	MT1	Session	Study
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1	C004103	Introduction to Biomimicry Liliana D'Alba Altamirano -- Department of Biology	3		A:1	90
2	F000752	Environmental Economics and Policy [nl] Brent Bleys -- Department of Economics	4		B:2	120
3	K001339	Sustainability Thinking [nl] Thomas Block -- Department of Political Sciences	5	UKV	A:J	150
4	K001013	Politics of Sustainability [nl] Erik Paredis -- Department of Political Sciences	6		A:2	180
5	F000859	Corporate Social Responsibility [nl] Saskia Crucke -- Department of Marketing, Innovation and Organisation	3		A:2	90
6	I002606	Environmental Risk Assessment Karel De Schamphelaere -- Department of Animal Sciences and Aquatic Ecology	5		A:1	150
7	I002789	Microbial Ecology and Environmental Sanitation Tom Defoirdt -- Department of Biotechnology	4		A:1	120
8	E630095	Co-Creation [en, nl] Jan Detand -- Department of Industrial Systems Engineering and Product Design	6	UKV	A:J	180
9	I002702	Clean Technology: Assessment Methods Sophie Huysveld -- Department of Green Chemistry and Technology	3		A:1	90
10	I002692	Forest and Nature Policy [nl] Myriam Dumortier -- Department of Environment	5		A:1	150
11	F000768	Marketing Management [nl] Maggie Geuens -- Department of Marketing, Innovation and Organisation	6		A:1	180
12	E640940	Business Management [nl] Ludo Poelaert -- Department of Industrial Systems Engineering and Product Design	3		A:2	90
13	I001967	Intellectual Property and Valorization Benedikt Sas -- Department of Food Technology, Safety and Health	3		A:2	90
14	I002718	Economics and Management of Natural Resources Stijn Speelman -- Department of Agricultural Economics	4		A:2	120
15	I002674	Product Innovation in the Food Industry [nl] Mieke Uyttendaele -- Department of Food Technology, Safety and Health	7		A:J	210
16	I002717	Functional Foods John Van Camp -- Department of Food Technology, Safety and Health	5		A:2	150
17	I002777	Human Nutrition John Van Camp -- Department of Food Technology, Safety and Health	5		A:1	150
18	E066012	Materials Technology [nl] Kim Verbeken -- Department of Materials, Textiles and Chemical Engineering	4		A:2	120
19	E065460	Rational Use of Materials Tom Depover -- Department of Materials, Textiles and Chemical Engineering	5		A:1	150
20	I002726	Food Fermentations Katleen Raes -- Department of Food Technology, Safety and Health	4		A:2	120
21	E084580	Sustainable Cities [nl] Thomas Block -- Department of Political Sciences	5		A:J	150
22	A005569	Global Minds Eric Vanhaute -- Department of History	5	UKV	A:2	150

## 2.2.2 Elective Courses UGent and other Universities

Subscribe to courses for no more than 7 credit units to be chosen from study programmes of UGent including [the Ghent University elective courses](#) or from study programmes of other universities of the Flemish Community or (online) courses from [Erasmus+ partner universities](#).

## 3 Majors

42 credits

Subscribe to 42 credit units from 1 major from the following list. Subject to approval by the faculty.

One combination between minors and majors is possible:

- Minor Bio-inspired Innovation and Sustainability - Major General Biology
- Minor Research - Major Biodiversity and Evolutionary Biology
- Minor Research - Major Global Change Ecology
- Minor Research - Major Functional Biology

### 3.1 Major General Biology

42 credits

Subscribe to 42 credit units from the following list, distributed over the first standard learning path as follows:

- no less than 30 and no more than 42 credit units in year 1,

- no more than 12 credit units in year 2.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C003310 Taxonomy and Systematics Koen Sabbe -- Department of Biology	4		1	A:1	120
2	C003311 Phylogenetics Olivier De Clerck -- Department of Biology	4		1	A:1	120
3	C003312 Integrated Biodiversity Research Project Olivier De Clerck -- Department of Biology	5		1	A:2	150
4	C003313 Biodiversity Patterns in Space and Time Koen Sabbe -- Department of Biology	4		2	A:1	120
5	C003314 Paleobiology Thijs Vandenbroucke -- Department of Geology	5		1	A:1	150
6	C003315 Biodiversity Conservation Ana Rita Giraldes Simoes -- Department of Biology	4		1	A:2	120
7	C003316 Microevolution and Speciation Frederik Hendrickx -- Department of Biology	6		1	A:1	180
8	C004274 Evolutionary Morphology Lars Chatrou -- Department of Biology	5		2	A:1	150
9	C003319 Evolutionary Developmental Biology Paul Witten -- Department of Biology	5		1	A:2	150
10	C003320 Climate Change Dirk Verschuren -- Department of Biology	4		1	A:2	120
11	C003321 Spatial Ecology Dries Bonte -- Department of Biology	5		1	A:1	150
12	C003322 Ecosystem Dynamics Elie Verleyen -- Department of Biology	5		1	A:1	150
13	C003323 Ecosystem Functioning Tom Moens -- Department of Biology	5		1	A:1	150
14	C003324 Behavioural Ecology Diederik Strubbe -- Department of Biology	4		1	A:2	120
15	C003325 Ecological Modelling Dries Bonte -- Department of Biology	7		1	A:2	210
16	C003326 Conservation Genetics Philippe Helsen -- Department of Biology	5		2	A:2	150
17	C003327 Ecosystem Management and Services Sander Jacobs	7		2	A:J	210
18	C003328 Plant Developmental Biology Tom Beeckman -- Department of Plant Biotechnology and Bioinformatics	5		1	A:2	150
19	C003347 Biology of Ageing Bart Braeckman -- Department of Biology	4		1	A:2	120
20	C003329 Physiological Regulation in Plants Dominique Van Der Straeten -- Department of Biology	5		1	A:1	150
21	C003352 Physiological Regulation in Animals Bart Braeckman -- Department of Biology	5		1	A:2	135
22	C003330 Functional Biotic Interactions Sofie Goormachtig -- Department of Plant Biotechnology and Bioinformatics	6		1	A:2	180
23	C003331 Functional Abiotic Interactions Dominique Van Der Straeten -- Department of Biology	6		1	A:1	180
24	C003332 Model Organisms Bart Braeckman -- Department of Biology	3		1	A:2	90
25	C002865 Bioethics Farah Focquaert -- Department of Philosophy and Moral Sciences	3		1	A:1	80

### 3.2 Major Biodiversity and Evolutionary Biology

42 credits

Subscribe to 42 credit units from the following list, distributed over the first standard learning path as follows:

- no less than 30 and no more than 42 credit units in year 1,
- no more than 12 credit units in year 2.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C003310 Taxonomy and Systematics Koen Sabbe -- Department of Biology	4		1	A:1	120

2	C003311	Phylogenetics Olivier De Clerck -- Department of Biology	4	1	A:1	120
3	C003312	Integrated Biodiversity Research Project Olivier De Clerck -- Department of Biology	5	1	A:2	150
4	C003313	Biodiversity Patterns in Space and Time Koen Sabbe -- Department of Biology	4	2	A:1	120
5	C003314	Paleobiology Thijs Vandenbroucke -- Department of Geology	5	1	A:1	150
6	C003315	Biodiversity Conservation Ana Rita Giraldes Simoes -- Department of Biology	4	1	A:2	120
7	C003316	Microevolution and Speciation Frederik Hendrickx -- Department of Biology	6	1	A:1	180
8	C004274	Evolutionary Morphology Lars Chatrou -- Department of Biology	5	2	A:1	150
9	C003319	Evolutionary Developmental Biology Paul Witten -- Department of Biology	5	1	A:2	150

### 3.3 Major Global Change Ecology

42 credits

Subscribe to 42 credit units from the following list, distributed over the first standard learning path as follows:

- no less than 30 and no more than 42 credit units in year 1,
- no more than 12 credit units in year 2.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C003320	Climate Change Dirk Verschuren -- Department of Biology	4	1	A:2	120
2	C003321	Spatial Ecology Dries Bonte -- Department of Biology	5	1	A:1	150
3	C003322	Ecosystem Dynamics Elie Verleyen -- Department of Biology	5	1	A:1	150
4	C003323	Ecosystem Functioning Tom Moens -- Department of Biology	5	1	A:1	150
5	C003324	Behavioural Ecology Diederik Strubbe -- Department of Biology	4	1	A:2	120
6	C003325	Ecological Modelling Dries Bonte -- Department of Biology	7	1	A:2	210
7	C003326	Conservation Genetics Philippe Helsen -- Department of Biology	5	2	A:2	150
8	C003327	Ecosystem Management and Services Sander Jacobs	7	2	A:J	210

### 3.4 Major Functional Biology

42 credits

Subscribe to 42 credit units from the following list, distributed over the first standard learning path as follows:

- no less than 30 and no more than 42 credit units in year 1,
- no more than 12 credit units in year 2.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C003328	Plant Developmental Biology Tom Beeckman -- Department of Plant Biotechnology and Bioinformatics	5	1	A:2	150
2	C003333	Evolutionary Developmental Biology of Animals Paul Witten -- Department of Biology	5	1	A:2	150
3	C003347	Biology of Ageing Bart Braeckman -- Department of Biology	4	1	A:2	120
4	C003329	Physiological Regulation in Plants Dominique Van Der Straeten -- Department of Biology	5	1	A:1	150
5	C003352	Physiological Regulation in Animals Bart Braeckman -- Department of Biology	5	1	A:2	135
6	C003330	Functional Biotic Interactions Sofie Goormachtig -- Department of Plant Biotechnology and Bioinformatics	6	1	A:2	180
7	C003331	Functional Abiotic Interactions Dominique Van Der Straeten -- Department of Biology	6	1	A:1	180
8	C003332	Model Organisms Bart Braeckman -- Department of Biology	3	1	A:2	90

## 4 Master's Dissertation

30 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C002312 Master's Dissertation N. N.	30		2	B:J	840

### Teaching

When a course is not taught (solely) in the programme's language of instruction, the effectively used languages are indicated in square brackets following the course name, using the following ISO codes:

bg: Bulgarian	de: German	es: Spanish	ja: Japanese	pl: Polish	sh: Kroatian/Serbian	zh: Chinese
cs: Czech	el: Greek	fr: French	nl: Dutch	pt: Portuguese	sl: Slovene	
da: Danish	en: English	it: Italian	no: Norwegian	ru: Russian	sv: Swedish	

### Semester

Semesters are indicated by their number (1 or 2); semester 3 represents the summer period and J indicates a course spanning semesters 1 and 2. When a capital letter precedes a semester number, the course has multiple offerings. The letter indicates the offering concerned.

When a semester is shown in brackets, the course is not offered this year in the specific offering.

The offering frequency and first year of offering are indicated by the following codes:

a: bi-annually	c: annually, from 2024-2025	f: annually, from 2025-2026	i: annually, from 2026-2027
b: tri-annually	d: bi-annually, from 2024-2025	g: bi-annually, from 2025-2026	j: bi-annually, from 2026-2027
	e: tri-annually, from 2024-2025	h: tri-annually, from 2025-2026	k: tri-annually, from 2026-2027