

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 <i>Carl Vangestel -- Department of Biology</i>	5		2	A:1	150
2	C003080 Programming <i>Peter Dawyndt -- Department of Mathematics, Computer Science and Statistics</i>	5	UKV	1	C:1	150
3	C003302 Academic Grant Writing <i>Matthew Shawkey -- Department of Biology</i>	3		1	A:2	90
4	C003334 Scientific Communication <i>Danny Haelewaters -- Department of Biology</i>	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] <i>Luc Lens -- Department of Biology</i>	5		2	A:J	150
2	C004099 Professional Internship II [nl] <i>Luc Lens -- Department of Biology</i>	10		2	A:J	300
3	C004100 International Project <i>Marleen De Troch -- Department of Biology</i>	5			A:J	150
4	C002755 Biological Excursions in the Human Brain <i>Robrecht Raedt -- Department of Head and Skin</i>	5			A:2 ^a	135
5	C004082 Evolution of Primates and Paleo-anthropology <i>Dominique Adriaens -- Department of Biology</i>	3			(A:2) ^d	75
6	C002769 Immunology and Pathology <i>Martin Guilliams -- Department of Molecular Biology</i>	5			A:2	135
7	C002770 Insect Physiology [nl] <i>Dirk de Graaf -- Department of Biochemistry, Physiology and Microbiology</i>	5			(A:1) ^d	135
8	C002387 International Course <i>Ann Vanreusel -- Department of Biology</i>	5			A:J	150
9	C004466 Limnology <i>Dirk Verschuren -- Department of Biology</i>	4			A:2	120
10	C003874 Marine Ecology <i>Ann Vanreusel -- Department of Biology</i>	6			A:1	150

11	C002774	Microbial Ecology <i>Anne Willems -- Department of Biochemistry, Physiology and Microbiology</i>	5		(A:1) ^d	140
12	C002775	Molecular Plant Physiology <i>Thomas Depaepe -- Department of Biology</i>	5		A:1 ^a	135
13	C004412	Introduction to Multivariate Data Analysis <i>Koen Sabbe -- Department of Biology</i>	3			90
14	C002777	Mycology: Basidiomycota [nl] <i>Annemieke Verbeken -- Department of Biology</i>	5		A:1	135
15	C002778	Ornithology <i>Luc Lens -- Department of Biology</i>	5		(A:2) ^d	135
16	C004386	Phylogenetics and Evolution of Flowering Plants [nl] <i>Lars Chatrou -- Department of Biology</i>	5		A:2	145
17	C001045	Teledetection: Image Registration and Processing [nl] <i>Rudi Goossens -- Department of Geography</i>	5		A:2	150
18	E084760	Geographic Information Systems (partim) [nl] <i>Nico Van de Weghe -- Department of Geography</i>	3		A:1	90
19	C004081	Biodiversity of Aquatic Food Webs: from Algae to Marine Mammals <i>Marleen De Troch -- Department of Biology</i>	3		A:1	90
20	C004385	Laboratory Animal Science <i>Katleen Hermans -- Department of Pathobiology, Pharmacology and Zoological Medicine</i>	9		A:J	270
21	C003306	Advanced Cell Biology <i>Geert van Loo -- Department of Molecular Biology</i>	5		A:1 ^a	150
22	C003307	Functional Diversity of Prokaryotes <i>Anne Willems -- Department of Biochemistry, Physiology and Microbiology</i>	4		A:1 ^a	120
23	I002457	Vegetation Science [nl] <i>Lander Baeten -- Department of Environment</i>	3		A:1	90
24	I002691	Nature Conservation [nl] <i>Lander Baeten -- Department of Environment</i>	4		A:1	120
25	C004009	History and Philosophy of Sciences [nl] <i>Maarten Van Dyck -- Department of Philosophy and Moral Sciences</i>	3		(A:1) ^d	90
26	C004083	History and Philosophy of Biology <i>Johan Braeckman -- Department of Philosophy and Moral Sciences</i>	3		A:1	90
27	C004102	Practical Skills in Academic Biological Education [nl] <i>Dominique Adriaens -- Department of Biology</i>	3		A:J	90
28	C004103	Introduction to Biomimicry <i>Liliana D'Alba Altamirano -- Department of Biology</i>	3		A:1	90
29	C004411	Writing Academic Papers <i>Danny Haelewaters -- Department of Biology</i>	4		A:1	120
30	A005569	Global Minds <i>Eric Vanhaute -- Department of History</i>	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] <i>Yannick Dillen -- Department of Marketing, Innovation and Organisation</i>	3	UKV	1	A:1	90
2	E076460 Dare to Venture <i>Johan Verrue -- Department of Marketing, Innovation and Organisation</i>	4		1	A:2	120
3	C004101 Bio-inspired Project <i>Matthew Shawkey -- Department of Biology</i>	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 <i>Liliana D'Alba Altamirano -- Department of Biology</i>	3		A:1	90
2	F000752	Environmental Economics and Policy [nl] <i>Brent Bleys -- Department of Economics</i>	4		B:2	120
3	K001339	Sustainability Thinking [nl] <i>Thomas Block -- Department of Political Sciences</i>	5	UKV	A:J	150
4	K001013	Politics of Sustainability [nl] <i>Erik Paredis -- Department of Political Sciences</i>	6		A:2	180
5	F000859	Corporate Social Responsibility [nl] <i>Saskia Crucke -- Department of Marketing, Innovation and Organisation</i>	3		A:2	90
6	I002606	Environmental Risk Assessment <i>Karel De Schampelaere -- Department of Animal Sciences and Aquatic Ecology</i>	5		A:1	150
7	I002789	Microbial Ecology and Environmental Sanitation <i>Tom Defoirdt -- Department of Biotechnology</i>	4		A:1	120
8	E630095	Co-Creation [en, nl] <i>Jan Detand -- Department of Industrial Systems Engineering and Product Design</i>	6	UKV	A:J	180
9	I002702	Clean Technology: Assessment Methods <i>Sophie Huysveld -- Department of Green Chemistry and Technology</i>	3		A:1	90
10	I002692	Forest and Nature Policy [nl] <i>Myriam Dumortier -- Department of Environment</i>	5		A:1	150
11	F000768	Marketing Management [nl] <i>Maggie Geuens -- Department of Marketing, Innovation and Organisation</i>	6		A:1	180
12	E640940	Business Management [nl] <i>Ludo Poelaert -- Department of Industrial Systems Engineering and Product Design</i>	3		A:2	90
13	I001967	Intellectual Property and Valorization <i>Benedikt Sas -- Department of Food Technology, Safety and Health</i>	3		A:2	90
14	I002718	Economics and Management of Natural Resources <i>Stijn Speelman -- Department of Agricultural Economics</i>	4		A:2	120
15	I002674	Product Innovation in the Food Industry [nl]	7		A:J	210
16	I002717	Functional Foods <i>John Van Camp -- Department of Food Technology, Safety and Health</i>	5		A:2	150
17	I002777	Human Nutrition <i>John Van Camp -- Department of Food Technology, Safety and Health</i>	5		A:1	150
18	E066012	Materials Technology [nl] <i>Kim Verbeken -- Department of Materials, Textiles and Chemical Engineering</i>	4		A:2	120
19	E065460	Rational Use of Materials <i>Tom Depover -- Department of Materials, Textiles and Chemical Engineering</i>	5		A:1	150
20	I002726	Food Fermentations <i>Katleen Raes -- Department of Food Technology, Safety and Health</i>	4		A:2	120
21	E084580	Sustainable Cities [nl] <i>Thomas Block -- Department of Political Sciences</i>	5		A:J	150
22	A005569	Global Minds <i>Eric Vanhaute -- Department of History</i>	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 <i>Koen Sabbe -- Department of Biology</i>	4		1	A:1	120
2	C003311 Phylogenetics <i>Olivier De Clerck -- Department of Biology</i>	4		1	A:1	120
3	C003312 Integrated Biodiversity Research Project <i>Olivier De Clerck -- Department of Biology</i>	5		1	A:2	150
4	C003313 Biodiversity Patterns in Space and Time <i>Koen Sabbe -- Department of Biology</i>	4		2	A:1	120
5	C003314 Paleobiology <i>Thijs Vandenbroucke -- Department of Geology</i>	5		1	A:1	150
6	C003315 Biodiversity Conservation <i>Ana Rita Giraldes Simoes -- Department of Biology</i>	4		1	A:2	120
7	C003316 Microevolution and Speciation <i>Frederik Hendrickx -- Department of Biology</i>	6		1	A:1	180
8	C004274 Evolutionary Morphology <i>Lars Chatrou -- Department of Biology</i>	5		2	A:1	150
9	C003319 Evolutionary Developmental Biology <i>Paul Witten -- Department of Biology</i>	5		1	A:2	150
10	C003320 Climate Change <i>Dirk Verschuren -- Department of Biology</i>	4		1	A:2	120
11	C003321 Spatial Ecology <i>Dries Bonte -- Department of Biology</i>	5		1	A:1	150
12	C003322 Ecosystem Dynamics <i>Elie Verleyen -- Department of Biology</i>	5		1	A:1	150
13	C003323 Ecosystem Functioning <i>Tom Moens -- Department of Biology</i>	5		1	A:1	150
14	C003324 Behavioural Ecology <i>Diederik Strubbe -- Department of Biology</i>	4		1	A:2	120
15	C003325 Ecological Modelling <i>Dries Bonte -- Department of Biology</i>	7		1	A:2	210
16	C003326 Conservation Genetics <i>Philippe Helsen -- Department of Biology</i>	5		2	A:2	150
17	C003327 Ecosystem Management and Services <i>Sander Jacobs</i>	7		2	A:J	210
18	C003328 Plant Developmental Biology <i>Tom Beeckman -- Department of Plant Biotechnology and Bioinformatics</i>	5		1	A:2	150
19	C003347 Biology of Ageing <i>Bart Braeckman -- Department of Biology</i>	4		1	A:2	120
20	C003329 Physiological Regulation in Plants <i>Dominique Van Der Straeten -- Department of Biology</i>	5		1	A:1	150
21	C003352 Physiological Regulation in Animals <i>Bart Braeckman -- Department of Biology</i>	5		1	A:2	135
22	C003330 Functional Biotic Interactions <i>Sofie Goormachtig -- Department of Plant Biotechnology and Bioinformatics</i>	6		1	A:2	180
23	C003331 Functional Abiotic Interactions <i>Dominique Van Der Straeten -- Department of Biology</i>	6		1	A:1	180
24	C003332 Model Organisms <i>Bart Braeckman -- Department of Biology</i>	3		1	A:2	90
25	C002865 Bioethics <i>Farah Focquaert -- Department of Philosophy and Moral Sciences</i>	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 <i>Koen Sabbe -- Department of Biology</i>	4		1	A:1	120

2	C003311	Phylogenetics <i>Olivier De Clerck -- Department of Biology</i>	4	1	A:1	120
3	C003312	Integrated Biodiversity Research Project <i>Olivier De Clerck -- Department of Biology</i>	5	1	A:2	150
4	C003313	Biodiversity Patterns in Space and Time <i>Koen Sabbe -- Department of Biology</i>	4	2	A:1	120
5	C003314	Paleobiology <i>Thijs Vandenbroucke -- Department of Geology</i>	5	1	A:1	150
6	C003315	Biodiversity Conservation <i>Ana Rita Giraldes Simoes -- Department of Biology</i>	4	1	A:2	120
7	C003316	Microevolution and Speciation <i>Frederik Hendrickx -- Department of Biology</i>	6	1	A:1	180
8	C004274	Evolutionary Morphology <i>Lars Chatrou -- Department of Biology</i>	5	2	A:1	150
9	C003319	Evolutionary Developmental Biology <i>Paul Witten -- Department of Biology</i>	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 <i>Dirk Verschuren -- Department of Biology</i>	4		1	A:2	120
2	C003321 Spatial Ecology <i>Dries Bonte -- Department of Biology</i>	5		1	A:1	150
3	C003322 Ecosystem Dynamics <i>Elie Verleyen -- Department of Biology</i>	5		1	A:1	150
4	C003323 Ecosystem Functioning <i>Tom Moens -- Department of Biology</i>	5		1	A:1	150
5	C003324 Behavioural Ecology <i>Diederik Strubbe -- Department of Biology</i>	4		1	A:2	120
6	C003325 Ecological Modelling <i>Dries Bonte -- Department of Biology</i>	7		1	A:2	210
7	C003326 Conservation Genetics <i>Philippe Helsen -- Department of Biology</i>	5		2	A:2	150
8	C003327 Ecosystem Management and Services <i>Sander Jacobs</i>	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 <i>Tom Beeckman -- Department of Plant Biotechnology and Bioinformatics</i>	5		1	A:2	150
2	C003333 Evolutionary Developmental Biology of Animals <i>Paul Witten -- Department of Biology</i>	5		1	A:2	150
3	C003347 Biology of Ageing <i>Bart Braeckman -- Department of Biology</i>	4		1	A:2	120
4	C003329 Physiological Regulation in Plants <i>Dominique Van Der Straeten -- Department of Biology</i>	5		1	A:1	150
5	C003352 Physiological Regulation in Animals <i>Bart Braeckman -- Department of Biology</i>	5		1	A:2	135
6	C003330 Functional Biotic Interactions <i>Sofie Goormachtig -- Department of Plant Biotechnology and Bioinformatics</i>	6		1	A:2	180
7	C003331 Functional Abiotic Interactions <i>Dominique Van Der Straeten -- Department of Biology</i>	6		1	A:1	180
8	C003332 Model Organisms <i>Bart Braeckman -- Department of Biology</i>	3		1	A:2	90

4 Master's Dissertation						30 credits	
Nr	Course		CRDT	Ref	MT1	Session	Study
1	C002312	Master's Dissertation <i>N. N.</i>	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 cours 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 in 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