

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 [en, 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) ^d | 135 |
| 5 | C004082 Evolution of Primates and Paleo-anthropology <i>Dominique Adriaens -- Department of Biology</i> | 3 | | | A:2 ^a | 75 |
| 6 | C002769 Immunology and Pathology <i>Martin Guilliams -- Department of Molecular Biology</i> | 5 | | | A:2 ^a | 135 |
| 7 | C002770 Insect Physiology [nl] <i>Dirk de Graaf -- Department of Biochemistry, Physiology and Microbiology</i> | 5 | | | A:1 ^a | 135 |
| 8 | C002387 International Course <i>Dries Bonte -- 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>Carl Van Colen -- 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 ^a | 140 |
| 12 | C002775 | Molecular Plant Physiology | 5 | | | 135 |
| 13 | C004412 | Introduction to Multivariate Data Analysis | 3 | | | 90 |
| 14 | C002777 | Mycology: Basidiomycota <i>Annemieke Verbeken -- Department of Biology</i> | 5 | | A:1 | 135 |
| 15 | C002778 | Ornithology <i>Luc Lens -- Department of Biology</i> | 5 | | A:2 ^a | 135 |
| 16 | C004386 | Phylogenetics and Evolution of Flowering Plants <i>Lars Chatrou -- Department of Biology</i> | 5 | | (A:2) ^d | 145 |
| 17 | C001045 | Teledetection: Image Registration and Processing [nl] <i>Tim Van de Voorde -- 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) ^d | 150 |
| 22 | C003307 | Functional Diversity of Prokaryotes <i>Anne Willems -- Department of Biochemistry, Physiology and Microbiology</i> | 4 | | (A:1) ^d | 120 |
| 23 | I002457 | Vegetation Science | 3 | | | 90 |
| 24 | I002691 | Nature Conservation | 4 | | | 120 |
| 25 | C004009 | History and Philosophy of Sciences [nl] <i>Maarten Van Dyck -- Department of Philosophy and Moral Sciences</i> | 3 | | B:2 | 90 |
| 26 | C004083 | History and Philosophy of Biology <i>Gertrudis Van de Vijver -- Department of Philosophy and Moral Sciences</i> | 3 | | A:2 | 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>Ines Keygnaert -- Department of Public Health and Primary Care</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 | 3 | UKV | 1 | | 90 |
| 2 | E076460 Dare to Venture | 4 | | 1 | | 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 |
|----|--|------|-----|-----|---------|-------|
| 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 | 5 | UKV | | | 150 |

| | | | | | | |
|----|---------|--|---|-----|-----|-----|
| 4 | K001013 | Politics of Sustainability <i>Erik Paredis -- Department of Political Sciences</i> | 6 | | | 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 | 3 | | | 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>Sofie Verbrugge -- Department of Information Technology</i> | 3 | | A:2 | 90 |
| 13 | I001967 | Intellectual Property and Valorization | 3 | | | 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 | 7 | | | 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 | 5 | | | 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 | 5 | | | 150 |
| 22 | A005569 | Global Minds <i>Ines Keygnaert -- Department of Public Health and Primary Care</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>Kenny Bogaert -- 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>Lucy Mitchell -- 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) ^d | 150 |
| 17 | C003327 | Ecosystem Management and Services <i>Sander Jacobs -- Department of Biology</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 ^a | 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>Michiel Vandecasteele -- Department of Plant Biotechnology and Bioinformatics</i> | 6 | 1 | A:2 | 180 |
| 23 | C003331 | Functional Abiotic Interactions <i>Anne Willems -- Department of Biochemistry, Physiology and Microbiology</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>Michiel De Proost -- 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>Kenny Bogaert -- 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>Lucy Mitchell -- 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) ^d | 150 |
| 8 | C003327 Ecosystem Management and Services <i>Sander Jacobs -- Department of Biology</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 ^a | 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>Michiel Vandecasteele -- Department of Plant Biotechnology and Bioinformatics</i> | 6 | | 1 | A:2 | 180 |
| 7 | C003331 Functional Abiotic Interactions <i>Anne Willems -- Department of Biochemistry, Physiology and Microbiology</i> | 6 | | 1 | A:1 | 180 |
| 8 | C003332 Model Organisms <i>Bart Braeckman -- Department of Biology</i> | 3 | | 1 | A:2 | 90 |
| 9 | C002865 Bioethics <i>Michiel De Proost -- Department of Philosophy and Moral Sciences</i> | 3 | | 1 | A:1 | 80 |

4 Master's Dissertation

30 credits

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|-------------------------------|------|-----|-----|---------|-------|
| 1 | C002312 Master's Dissertation | 30 | | 2 | A: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: Croatian/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 2027-2028 | f: annually, from 2028-2029 | i: annually, from 2029-2030 |
| b: tri-annually | d: bi-annually, from 2027-2028 | g: bi-annually, from 2028-2029 | j: bi-annually, from 2029-2030 |
| | e: tri-annually, from 2027-2028 | h: tri-annually, from 2028-2029 | k: tri-annually, from 2029-2030 |