

Programme jointly offered by Ghent University, Universiteit Antwerpen, Vrije Universiteit Brussel

Master of Science in Marine and Lacustrine Science and Management

Language of instruction: English

Programme version 11

## 1 General Courses

45 credits

Subscribe to 39 credit units from the following list, with 3 credit units with reference a.

Subscribe to 6 credit units from 1 module from the following list.

| Nr | Course   | CRDT | Ref | MT1 | Session            | Study |
|----|--|------|-----|-----|--------------------|-------|
| 1  | C003807 Oceanography<br><i>Ann Vanreusel -- Department of Biology</i>  | 4    |     | 1   | A:1                | 120   |
| 2  | C003808 Estuarine and Coastal Systems<br><i>Universiteit Antwerpen, Stijn Temmerman</i>  | 5    |     | 1   | A:1                | 150   |
| 3  | C002469 Law and Ethics on Conservation of Aquatic Systems<br><i>An Cliquet -- Department of European, Public and International Law</i> | 3    |     | 1   | A:2                | 90    |
| 4  | C002470 In-situ and Remote Sensing Tools in Aquatic Sciences<br><i>Vera Van Lancker -- Department of Geology</i>                       | 5    |     | 1   | A:2                | 150   |
| 5  | C003809 Environmental Modelling<br><i>Karline Soetaert -- Department of Biology</i>  | 3    |     | 1   | A:2                | 90    |
| 6  | C004441 Freshwater Ecology<br><i>Vrije Universiteit Brussel, N. N.</i>   | 5    |     | 1   | A:1                | 150   |
| 7  | C002772 Limnology<br><i>Dirk Verschuren -- Department of Biology</i>   | 5    |     | 1   | A:2                | 135   |
| 8  | C003353 Integrated Marine Coastal Ecology Field Course<br><i>Vrije Universiteit Brussel, Marc Kochzius</i>                             | 3    |     | 1   | A:2                | 90    |
| 9  | C003354 Integrated Field Course at Sea<br><i>Jan Vanaverbeke -- Department of Biology</i>  | 3    | a   | 1   | A:2                | 90    |
| 10 | C003355 Integrated Limnological Field Course<br><i>Marc De Batist -- Department of Geology</i>   | 3    | a   | 1   | A:2                | 90    |
| 11 | C004407 Integrated Estuarine Field Course<br><i>Vrije Universiteit Brussel, Natacha Brion</i>  | 3    | a   | 1   | A:2                | 90    |
| 12 | C003810 Seminars: Case Studies on Biodiversity Management<br><i>Ann Vanreusel -- Department of Biology</i>                             | 3    |     | 1   | (A:J) <sup>d</sup> | 90    |

### 1.1 Elective Course List

6 credits

Subscribe to 6 credit units from the following list.

| Nr | Course  | CRDT | Ref | MT1 | Session          | Study |
|----|---|------|-----|-----|------------------|-------|
| 1  | C004042 Monsoon School<br><i>Vrije Universiteit Brussel, Ann Vanreusel -- Department of Biology</i> | 6    |     |     | A:J <sup>a</sup> | 175   |
| 2  | C004371 Summer School<br><i>Vrije Universiteit Brussel, Ann Vanreusel -- Department of Biology</i>  | 6    |     |     | A:J              | 150   |

### 1.2 Elective Courses

6 credits

Students can choose 6 ECTS from any Master programme offered by Belgian universities (subject to approval by the chairman of the examination board).

## 2 Majors

24 credits

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

## 2.1 Major Global Change Impacts on Ecology and Biodiversity

24 credits

| Nr | Course  | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1  | C004045 Marine Genomics [en, nl]<br><i>Sofie Derycke -- Department of Biology</i>   | 3    |     |     | A:1     | 90    |
| 2  | C004046 Marine Food Web Ecology<br><i>Marleen De Troch -- Department of Biology</i> | 3    |     |     | A:1     | 90    |
| 3  | C002491 Ecology of Coastal Seas<br><i>Marleen De Troch -- Department of Biology</i> | 3    |     |     | A:2     | 90    |
| 4  | C004043 Marine Extreme Systems<br><i>Ann Vanreusel -- Department of Biology</i>     | 6    |     |     | A:1     | 180   |
| 5  | C002493 Lacustrine Systems<br><i>Wim Vyverman -- Department of Biology</i>          | 3    |     |     | A:2     | 90    |
| 6  | C002476 Aquatic Microbial Ecology<br><i>Wim Vyverman -- Department of Biology</i>   | 6    |     |     | A:1     | 180   |

## 2.2 Major Conservation Biology and Ecosystem Management

24 credits

| Nr | Course   | CRDT | Ref | MT1 | Session | Study |
|----|--|------|-----|-----|---------|-------|
| 1  | C004044 Marine Fisheries Ecology and Management<br><i>Vrije Universiteit Brussel, Marc Kochzius</i>                              | 6    |     |     | A:J     | 178   |
| 2  | C004048 Integrated Coastal Zone Management<br><i>Vrije Universiteit Brussel, Farid Dahdouh-Guebas</i>                            | 3    |     |     | A:1     | 78    |
| 3  | C002503 Tropical Marine Ecology and Restoration<br><i>Vrije Universiteit Brussel, Nico Koedam</i>                                | 3    |     |     |         | 90    |
| 4  | C003821 Conservation Genetics<br><i>Vrije Universiteit Brussel, Marc Kochzius</i>  | 3    |     |     | A:2     | 75    |
| 5  | C002499 Environmental Impact Assessment<br><i>Steven Degraer -- Department of Biology</i>  | 3    |     |     | A:1     | 90    |
| 6  | C002500 Law of the Sea and Protection of Oceans<br><i>Klaas Willaert -- Department of European, Public and International Law</i> | 3    |     |     | A:1     | 90    |
| 7  | C004047 Marine Biodiversity<br><i>Marleen De Troch -- Department of Biology</i>  | 3    |     |     | A:1     | 90    |

## 2.3 Major Environmental Impact and Remediation

24 credits

| Nr | Course   | CRDT | Ref | MT1 | Session | Study |
|----|--|------|-----|-----|---------|-------|
| 1  | C002499 Environmental Impact Assessment<br><i>Steven Degraer -- Department of Biology</i>                    | 3    |     |     | A:1     | 90    |
| 2  | C003813 Aquatic Ecotoxicology and Environmental Monitoring<br><i>Universiteit Antwerpen, Lieven Bervoets</i> | 6    |     |     | A:1     | 150   |
| 3  | C003814 Ecosystem Based Adaptation to Global Change<br><i>Universiteit Antwerpen, Stijn Temmerman</i>        | 6    |     |     | A:J     | 160   |
| 4  | C002505 Integrated Practicals<br><i>Universiteit Antwerpen, Gudrun De Boeck</i>                              | 3    |     | 2   | A:J     | 90    |
| 5  | C004094 Physiology of Aquatic Organisms<br><i>Universiteit Antwerpen, Gudrun De Boeck</i>                    | 6    |     |     | A:1     | 180   |

## 2.4 Major Marine and Lacustrine Geosciences

24 credits

[Only available for students with a sufficient geological knowledge.](#)

| Nr | Course  | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1  | C003816 Advanced Sedimentology<br><i>Maarten Van Daele -- Department of Geology</i>           | 6    |     |     | A:1     | 180   |
| 2  | C001584 Paleobiology of Micro-organisms<br><i>Stephen Louwye -- Department of Geology</i>     | 6    |     |     | A:1     | 150   |
| 3  | C003998 Integrated Offshore Exploration<br><i>David Van Rooij -- Department of Geology</i>    | 6    |     |     | A:2     | 150   |
| 4  | C002473 Paleoclimatology and Climate Change<br><i>Marc De Batist -- Department of Geology</i> | 6    |     |     | A:1     | 180   |

## 3 Elective Courses

21 credits

### 3.1 Broadening Courses

12 credits

| Nr | Course  | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1  | C002478 Governance and Policy in Development and Cooperation Part I<br><i>Vrije Universiteit Brussel, Nico Koedam</i>                             | 3    |     | 1   | A:1     | 90    |
| 2  | C002479 Governance and Policy in Development and Cooperation Part II<br><i>Vrije Universiteit Brussel, Ann Vanreusel -- Department of Biology</i> | 3    |     | 2   | A:2     | 90    |
| 3  | C003811 Internship<br><i>Ann Vanreusel -- Department of Biology</i>   | 6    |     | 2   | A:J     | 180   |

### 3.2 Supporting Courses

9 credits

Subscribe to 9 credit units from the following list. Subject to approval by the faculty.

- Non-biologists who subscribe to Major Global Change Impacts on Ecology and Biodiversity, Major Conservation Biology and Ecosystem Management or Major Environmental Impact and Remediation should follow the course 'Introduction to Marine and Lacustrine Biology'.
- At least the level of 'Advanced Applied Statistics' must be reached.

| Nr | Course  | CRDT | Ref | MT1 | Session            | Study |
|----|---|------|-----|-----|--------------------|-------|
| 1  | C002477 Data and Information Management<br><i>Tim Deprez -- Department of Biology</i>                     | 3    |     |     | A:1                | 90    |
| 2  | C003114 Introduction to GIS<br><i>Vrije Universiteit Brussel, Frank Canters</i>                           | 3    |     |     | A:2                | 90    |
| 3  | C002485 Introduction to Marine and Lacustrine Biology<br><i>Marleen De Troch -- Department of Biology</i> | 3    |     | 1   | A:1                | 90    |
| 4  | C004095 Introduction to Data Mining<br><i>Vrije Universiteit Brussel, Marc Elskens</i>                    | 3    |     | 1   | A:1                | 90    |
| 5  | C003812 Advanced Applied Statistics<br><i>Ann Vanreusel -- Department of Biology</i>                      | 3    |     |     | A:2                | 90    |
| 6  | C003823 Biogeochemistry<br><i>Vrije Universiteit Brussel, Marc Elskens</i>                                | 3    |     |     | A:1 <sup>a</sup>   | 90    |
| 7  | C004049 Analysis of Biological Data<br><i>Vrije Universiteit Brussel, Bram Vanschoenwinkel</i>            | 6    |     |     | A:1                | 166   |
| 8  | C003821 Conservation Genetics<br><i>Vrije Universiteit Brussel, Marc Kochzius</i>                         | 3    |     |     | A:2                | 75    |
| 9  | C004050 Stable Isotope Geochemistry<br><i>Steven Goderis -- Department of Chemistry</i>                   | 3    |     |     | A:2                | 90    |
| 10 | C004375 Applied Geomorphology<br><i>Vrije Universiteit Brussel, Matthieu Kervyn de Meerendre</i>          | 6    |     |     | (A:2) <sup>d</sup> | 150   |
| 11 | C004271 Natural Risk Management<br><i>Vrije Universiteit Brussel, Matthieu Kervyn de Meerendre</i>        | 3    |     |     | A:2                | 90    |
| 12 | C004373 Water Quality<br><i>Vrije Universiteit Brussel, Marc Elskens</i>                                  | 3    |     |     | A:2                | 80    |
| 13 | C004406 Methods of Scientific Diving<br><i>Vrije Universiteit Brussel, Alain Norro</i>                    | 3    |     |     | A:2                | 75    |

### 4 Master's Dissertation

30 credits

| Nr | Course  | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1  | C003357 Master Thesis: Marine and Lacustrine Science and Management | 30   |     | 2   | A:J     | 750   |

## 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 2023-2024     | f: annually, from 2024-2025     | i: annually, from 2025-2026     |
| b: tri-annually | d: bi-annually, from 2023-2024  | g: bi-annually, from 2024-2025  | j: bi-annually, from 2025-2026  |
|                 | e: tri-annually, from 2023-2024 | h: tri-annually, from 2024-2025 | k: tri-annually, from 2025-2026 |