

Faculty of Bioscience Engineering

Master of Science in Environmental Science and Technology

Language of instruction: English

Programme version 3

1 General Courses 55 credits

1.1 Module Environmental Sustainability and Policy 13 credits

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1 | I002701 Clean Technology: Theory and Concepts <i>Sophie Huysveld -- Department of Green Chemistry and Technology</i> Indicative price: unknown | 3 | | 1 | A:1 | 90 |
| 2 | I002586 Multidisciplinary Analysis of Climate Change <i>Pascal Boeckx -- Department of Green Chemistry and Technology</i> Indicative price: € 0 | 3 | | 1 | A:2 | 90 |
| 3 | I001571 Environmental Legislation <i>Hendrik Schoukens -- Department of European, Public and International Law</i> Indicative price: unknown | 3 | | 1 | A:1 | 75 |
| 4 | I002718 Economics and Management of Natural Resources <i>Stijn Speelman -- Department of Agricultural Economics</i> Indicative price: € 68 | 4 | | 1 | A:2 | 120 |

1.2 Module Environmental Diagnostics 15 credits

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1 | I002587 Environmental Chemistry and Analysis: Atmospheric Processes <i>Christophe Walgraeve -- Department of Green Chemistry and Technology</i> Indicative price: € 110 | 5 | | 1 | A:1 | 150 |
| 2 | I002588 Environmental Chemistry and Analysis: Water, Soil and Sediment <i>Filip Tack -- Department of Green Chemistry and Technology</i> Indicative price: € 35 | 5 | | 1 | A:1 | 150 |
| 3 | I002606 Environmental Risk Assessment <i>Karel De Schampelaere -- Department of Animal Sciences and Aquatic Ecology</i> Indicative price: € 0 | 5 | | 1 | A:1 | 150 |

1.3 Module Environmental Technology 15 credits

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|--|------|-----|-----|---------|-------|
| 1 | I002508 Environmental Technology: Water <i>Jo De Vrieze -- Department of Biotechnology</i> Indicative price: € 20 | 5 | | 1 | B:2 | 150 |
| 2 | I002589 Environmental Technology: Soil and Sediment <i>Filip Tack -- Department of Green Chemistry and Technology</i> Indicative price: € 35 | 3 | | 1 | A:2 | 90 |
| 3 | I002590 Environmental Technology: Air <i>Christophe Walgraeve -- Department of Green Chemistry and Technology</i> Indicative price: € 70 | 4 | | 1 | A:2 | 120 |
| 4 | I002591 Environmental Technology: Waste <i>Frederik Ronse -- Department of Green Chemistry and Technology</i> Indicative price: € 0 | 3 | | 1 | A:2 | 90 |

1.4 Module Applied Ecology 9 credits

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|--------|------|-----|-----|---------|-------|
|----|--------|------|-----|-----|---------|-------|

| | | | | | | |
|---|---------|---|---|---|-----|----|
| 1 | I002504 | Applied Freshwater Ecology <i>Peter Goethals -- Department of Animal Sciences and Aquatic Ecology</i> Indicative price: unknown | 3 | 1 | A:1 | 90 |
| 2 | I002535 | Applied Marine Ecology <i>Colin Janssen -- Department of Animal Sciences and Aquatic Ecology</i> Indicative price: € 0 | 3 | 1 | A:1 | 90 |
| 3 | I002609 | Environmental Microbiology <i>Nico Boon -- Department of Biotechnology</i> Indicative price: € 0 | 3 | 1 | A:1 | 90 |

1.5 Module Research Skills

3 credits

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---------|--|-----|-----|---------|-------|
| 1 | I003030 | Introduction to Modelling and Simulation <i>Michiel Stock -- Department of Data Analysis and Mathematical Modelling</i> Indicative price: € 40 | 3 | 1 | A:2 | 90 |

2 Majors

21 credits

Subscribe to 21 credit units from 1 major from the following list. Subject to approval by the faculty.

2.1 Major Environmental Assessment and Management of Chemicals

21 credits

Subscribe to 21 credit units from the following list.

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---------|---|-----|-----|---------|-------|
| 1 | I002597 | Urban and Indoor Air Quality <i>Christophe Walgraeve -- Department of Green Chemistry and Technology</i> Indicative price: € 350 | 6 | 2 | A:1 | 180 |
| 2 | I003014 | Emerging Topics and Current Practice in Environmental Risk Assessment <i>Karel De Schampelaere -- Department of Animal Sciences and Aquatic Ecology</i> Indicative price: € 0 | 5 | 2 | A:2 | 150 |
| 3 | I003015 | Environmental Fate and Management of Pesticides <i>Pieter Spanoghe -- Department of Plants and Crops</i> Indicative price: € 0 | 5 | 2 | A:1 | 150 |
| 4 | I003016 | Metals and Metalloids in Environment and Technology <i>Filip Tack -- Department of Green Chemistry and Technology</i> Indicative price: € 10 | 5 | 2 | A:1 | 150 |

2.2 Major Resource Recovery Technology

21 credits

Subscribe to 21 credit units from the following list.

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---------|---|-----|-----|---------|-------|
| 1 | I002702 | Clean Technology: Assessment Methods <i>Sophie Huysveld -- Department of Green Chemistry and Technology</i> Indicative price: unknown | 3 | 2 | A:1 | 90 |
| 2 | I002598 | Physico-Chemical Resource Recovery from Aqueous Waste Streams <i>Marjolein Vanoppen -- Department of Green Chemistry and Technology</i> Indicative price: unknown | 6 | 2 | A:1 | 180 |
| 3 | I002607 | Resource Recovery Technology <i>Ramon Ganigú -- Department of Biotechnology</i> Indicative price: € 0 | 5 | 2 | B:2 | 150 |
| 4 | I002600 | Non-technological Drivers and Challenges of Resource Recovery <i>Stijn Speelman -- Department of Agricultural Economics</i> Indicative price: unknown | 4 | 2 | A:2 | 120 |
| 5 | I003017 | Digitalisation for Resource Recovery <i>Ingmar Nopens -- Department of Data Analysis and Mathematical Modelling</i> Indicative price: € 0 | 3 | 2 | A:1 | 90 |

2.3 Major Urban Environmental Management

21 credits

Subscribe to 21 credit units from the following list.

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---------|---|-----|-----|---------|-------|
| 1 | I002851 | Urban Ecology and Management <i>Ben Somers -- Department of Environment</i> Indicative price: unknown | 3 | 2 | A:1 | 90 |

| | | | | | | |
|---|---------|--|---|---|-----|-----|
| 2 | I002597 | Urban and Indoor Air Quality <i>Christophe Walgraeve -- Department of Green Chemistry and Technology</i> Indicative price: € 350 | 6 | 2 | A:1 | 180 |
| 3 | C003534 | Urban Mobility and Logistics <i>Giovanni Circella -- Department of Geography</i> Indicative price: € 0 | 5 | 2 | A:1 | 150 |
| 4 | I001439 | Environmental Noise <i>Timothy Van Renterghem -- Department of Information Technology</i> Indicative price: unknown | 4 | 2 | B:1 | 120 |
| 5 | E084571 | Urban Analysis and Design <i>Michiel Dehaene -- Department of Architecture and Urban Planning</i> Indicative price: unknown | 3 | 2 | B:1 | 90 |

3 Elective Courses 14 credits

Subscribe to 14 credit units from no less than 1 and no more than 3 module(s) from the following list. Subject to approval by the faculty. Students can choose which of the elective course units are taken in the first or the second standard learning track year (unless otherwise specified). In combination with the general course units, and the Master's dissertation the sum of the total number of credits taken up over the 2 standard learning track years must be 120 credits.

3.1 Courses from the Majors

Subscribe to no more than 14 credit units from the majors, with the exception of the courses taken within the chosen major.

3.2 Internship

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|--|------|-----|-----|---------|-------|
| 1 | I001884 Internship <i>Karel De Schampelaere -- Department of Animal Sciences and Aquatic Ecology</i> Indicative price: € 0 | 6 | | 2 | A:J | 150 |

3.3 Open Choice

Subscribe to no more than 14 credit units from courses offered at Ghent University, including [Ghent University Elective Courses](#) in English. Maximum 6 credit units language courses are allowed within this master program. Subject to approval by the faculty.

4 Master's Dissertation 30 credits

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1 | I001508 Master's Dissertation <i>Karel De Schampelaere -- Department of Animal Sciences and Aquatic Ecology</i> Indicative price: € 0 | 30 | | 2 | A:J | 900 |

Programme related study costs

Type: Laptop

Name: Laptop

Indicative price: € 1,000

Optional: No

Type: Lab Material

Name: Safety glasses

Indicative price: € 15

Optional: No

Type: Lab Material

Name: Lab coat

Indicative price: € 30

Optional: No

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 2025-2026 | f: annually, from 2026-2027 | i: annually, from 2027-2028 |
| b: tri-annually | d: bi-annually, from 2025-2026 | g: bi-annually, from 2026-2027 | j: bi-annually, from 2027-2028 |
| | e: tri-annually, from 2025-2026 | h: tri-annually, from 2026-2027 | k: tri-annually, from 2027-2028 |

Learning materials

The prices stated are indicative and subject to fluctuations.

The list of learning materials per course unit can be found in the course sheets.