

Faculty of Bioscience Engineering

Master of Science in Environmental Science and Technology

Language of instruction: English

Programme version 1

1 General Courses

60 credits

1.1 Module Environmental Sustainability and Policy

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1 | I002701 Clean Technology: Theory and Concepts Sophie Huysveld -- Department of Green Chemistry and Technology | 3 | | 1 | A:1 | 90 |
| 2 | I002585 Sustainability and Environmental Economics Stijn Speelman -- Department of Agricultural Economics | 4 | | 1 | A:2 | 120 |
| 3 | I002586 Multidisciplinary Analysis of Climate Change Pascal Boeckx -- Department of Green Chemistry and Technology | 3 | | 1 | A:2 | 90 |
| 4 | I001571 Environmental Legislation Frank Maes -- Department of European, Public and International Law | 3 | | 1 | A:1 | 75 |

1.2 Module Environmental Diagnostics

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1 | I002587 Environmental Chemistry and Analysis: Atmospheric Processes Christophe Walgraeve -- Department of Green Chemistry and Technology | 5 | | 1 | A:1 | 150 |
| 2 | I002588 Environmental Chemistry and Analysis: Water, Soil and Sediment Filip Tack -- Department of Green Chemistry and Technology | 5 | | 1 | A:1 | 150 |
| 3 | I002606 Environmental Risk Assessment Karel De Schamphelaere -- Department of Animal Sciences and Aquatic Ecology | 5 | | 1 | A:1 | 150 |

1.3 Module Environmental Technology

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1 | I002508 Environmental Technology: Water Jo De Vrieze -- Department of Biotechnology | 5 | | 1 | B:2 | 150 |
| 2 | I002589 Environmental Technology: Soil and Sediment Filip Tack -- Department of Green Chemistry and Technology | 3 | | 1 | A:2 | 90 |
| 3 | I002590 Environmental Technology: Air Christophe Walgraeve -- Department of Green Chemistry and Technology | 4 | | 1 | A:2 | 120 |
| 4 | I002591 Environmental Technology: Waste Frederik Ronsse -- Department of Green Chemistry and Technology | 3 | | 1 | A:2 | 90 |

1.4 Module Applied Ecology

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1 | I002504 Applied Freshwater Ecology Peter Goethals -- Department of Animal Sciences and Aquatic Ecology | 3 | | 1 | A:1 | 90 |
| 2 | I002535 Applied Marine Ecology Colin Janssen -- Department of Animal Sciences and Aquatic Ecology | 3 | | 1 | A:1 | 90 |
| 3 | I002609 Environmental Microbiology Nico Boon -- Department of Biotechnology | 3 | | 1 | A:1 | 90 |

1.5 Module Environmental Research Skills

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|--|------|-----|-----|---------|-------|
| 1 | I002593 Introduction to Environmental Modelling and Simulation David Fernandes del Pozo -- Department of Data Analysis and Mathematical Modelling | 3 | | 1 | A:2 | 90 |

| | | | | | | |
|---|---------|--|---|---|-----|-----|
| 2 | I002594 | Environmental Research Skills and Experimental Design Gijs Du Laing -- Department of Green Chemistry and Technology | 5 | 1 | A:J | 150 |
|---|---------|--|---|---|-----|-----|

2 Majors

24 credits

Subscribe to 24 credit units from 1 major from the following list.

2.1 Major Environmental Assessment and Management of Chemicals 24 credits

Subscribe to 24 credit units from the following list.

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|--|------|-----|-----|---------|-------|
| 1 | I002595 Emerging Topics and Current Practice in Environmental Risk Assessment Karel De Schampheleere -- Department of Animal Sciences and Aquatic Ecology | 6 | | 2 | A:2 | 180 |
| 2 | I002596 Environmental Fate and Management of Pesticides Pieter Spanoghe -- Department of Plants and Crops | 6 | | 2 | A:1 | 180 |
| 3 | I002597 Urban and Indoor Air Quality Christophe Walgraeve -- Department of Green Chemistry and Technology | 6 | | 2 | A:1 | 180 |
| 4 | I002749 Metals and Metalloids in Environment and Technology Filip Tack -- Department of Green Chemistry and Technology | 6 | | 2 | A:1 | 180 |

2.2 Major Resource Recovery Technology 24 credits

Subscribe to 24 credit units from the following list.

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1 | I002702 Clean Technology: Assessment Methods Sophie Huysveld -- Department of Green Chemistry and Technology | 3 | | 2 | A:1 | 90 |
| 2 | I002598 Physico-Chemical Resource Recovery from Aqueous Waste Streams Arne Verliefde -- Department of Green Chemistry and Technology | 6 | | 2 | A:1 | 180 |
| 3 | I002599 Digitalisation for Resource Recovery Piet Seuntjens -- Department of Data Analysis and Mathematical Modelling | 6 | | 2 | A:1 | 180 |
| 4 | I002607 Resource Recovery Technology Ramon Ganigúe -- Department of Biotechnology | 5 | | 2 | B:2 | 150 |
| 5 | I002600 Non-technological Drivers and Challenges of Resource Recovery Stijn Speelman -- Department of Agricultural Economics | 4 | | 2 | A:2 | 120 |

2.3 Major Environmental Health and Technology for Developing Economies 24 credits

Subscribe to 24 credit units from the following list.

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|--------------------|-------|
| 1 | I002601 Basic Concepts in Environmental Health Stefaan De Henauw -- Department of Public Health and Primary Care | 4 | | 2 | (A:1) ^c | 120 |
| 2 | I002608 Decentralized Sanitation and Treatment Technologies for Developing Economies | 6 | | 2 | (A:1) ^c | 180 |
| 3 | I002607 Resource Recovery Technology Ramon Ganigúe -- Department of Biotechnology | 5 | | 2 | B:2 | 150 |
| 4 | I002698 Water Quality Management Peter Goethals -- Department of Animal Sciences and Aquatic Ecology | 4 | | 2 | A:2 | 120 |
| 5 | I002714 Rural Project Management Hans De Steur -- Department of Agricultural Economics | 5 | | 2 | A:2 | 150 |

2.4 Major Urban Environmental Management 24 credits

Subscribe to 24 credit units from the following list.

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|--|------|-----|-----|---------|-------|
| 1 | I002851 Urban Ecology and Management Ben Somers -- Department of Environment | 3 | | 2 | A:1 | 90 |
| 2 | I002597 Urban and Indoor Air Quality Christophe Walgraeve -- Department of Green Chemistry and Technology | 6 | | 2 | A:1 | 180 |
| 3 | C003534 Urban Mobility and Logistics Frank Witlox -- Department of Geography | 3 | | 2 | B:1 | 90 |
| 4 | I001439 Environmental Noise Timothy Van Renterghem -- Department of Information Technology | 4 | | 2 | B:1 | 120 |
| 5 | E084571 Urban Analysis and Design Michiel Dehaene -- Department of Architecture and Urban Planning | 3 | | 2 | B:1 | 90 |
| 6 | I001542 Environmental Impact Assessment: Integrated Project Sophie Huysveld -- Department of Green Chemistry and Technology | 5 | | 2 | A:2 | 135 |

2.5 Major Environmental Health and Technology for Marine Systems

24 credits

Subscribe to 24 credit units from the following list.

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1 | I002603 Blue Growth: An Interdisciplinary Approach to Research and Innovation in the Marine Environment Colin Janssen -- Department of Animal Sciences and Aquatic Ecology | 3 | | 2 | | 90 |
| 2 | C003870 Marine Policy and Governance Klaas Willaert -- Department of European, Public and International Law | 3 | | 2 | A:1 | 75 |
| 3 | I000928 Aquaculture Environmental Impact Jana Asselman -- Department of Animal Sciences and Aquatic Ecology | 3 | | 2 | A:2 | 90 |
| 4 | I002604 Oceans and Human Health Jana Asselman -- Department of Animal Sciences and Aquatic Ecology | 3 | | 2 | A:1 | 90 |
| 5 | E054820 Inland Waterways and Locks Tom De Mulder -- Department of Civil Engineering | 4 | | 2 | D:2 | 120 |
| 6 | C002642 Dredging and Offshore Constructions Bruno Stuyts -- Department of Civil Engineering | 3 | | 2 | A:2 | 75 |
| 7 | I002605 Seminars and Company Visits Colin Janssen -- Department of Animal Sciences and Aquatic Ecology | 5 | | 2 | | 150 |

3 Elective Courses

6 credits

Subscribe to 6 credit units from no less than 1 and no more than 3 modules from the following list.

3.1 Courses from the Majors

Subscribe to no more than 6 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 Karel De Schamphelaere -- Department of Animal Sciences and Aquatic Ecology | 6 | | 2 | A:J | 150 |

3.3 Ghent University Elective Courses in English

Subscribe to no more than 6 credit units from the [Ghent University Elective Courses in English](#)

4 Master's Dissertation

30 credits

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|--|------|-----|-----|---------|-------|
| 1 | I001508 Master's Dissertation Karel De Schamphelaere -- Department of Animal Sciences and Aquatic Ecology | 30 | | 2 | A:J | 900 |

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 |