

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>	3		1	A:1	90
2	I002586 Multidisciplinary Analysis of Climate Change <i>Pascal Boeckx -- Department of Green Chemistry and Technology</i>	3		1	A:2	90
3	I001571 Environmental Legislation <i>Hendrik Schoukens -- Department of European, Public and International Law</i>	3		1	A:1	75
4	I002718 Economics and Management of Natural Resources <i>Stijn Speelman -- Department of Agricultural Economics</i>	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>	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>	5		1	A:1	150
3	I002606 Environmental Risk Assessment <i>Karel De Schampheleere -- Department of Animal Sciences and Aquatic Ecology</i>	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>	5		1	B:2	150
2	I002589 Environmental Technology: Soil and Sediment <i>Filip Tack -- Department of Green Chemistry and Technology</i>	3		1	A:2	90
3	I002590 Environmental Technology: Air <i>Christophe Walgraeve -- Department of Green Chemistry and Technology</i>	4		1	A:2	120
4	I002591 Environmental Technology: Waste <i>Frederik Ronsse -- Department of Green Chemistry and Technology</i>	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>	3		1	A:1	90
2	I002535 Applied Marine Ecology <i>Colin Janssen -- Department of Animal Sciences and Aquatic Ecology</i>	3		1	A:1	90
3	I002609 Environmental Microbiology <i>Nico Boon -- Department of Biotechnology</i>	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>	3		1	A:2	90

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>	6		2	A:1	180
2	I003014 Emerging Topics and Current Practice in Environmental Risk Assessment <i>Karel De Schampheleere -- Department of Animal Sciences and Aquatic Ecology</i>	5		2	A:2	150
3	I003015 Environmental Fate and Management of Pesticides <i>Pieter Spanoghe -- Department of Plants and Crops</i>	5		2	A:1	150
4	I003016 Metals and Metalloids in Environment and Technology <i>Filip Tack -- Department of Green Chemistry and Technology</i>	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>	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>	6		2	A:1	180
3	I002607 Resource Recovery Technology <i>Ramon Ganigué -- Department of Biotechnology</i>	5		2	B:2	150
4	I002600 Non-technological Drivers and Challenges of Resource Recovery <i>Stijn Speelman -- Department of Agricultural Economics</i>	4		2	A:2	120
5	I003017 Digitalisation for Resource Recovery <i>Ingmar Nopens -- Department of Data Analysis and Mathematical Modelling</i>	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>	3		2	A:1	90
2	I002597 Urban and Indoor Air Quality <i>Christophe Walgraeve -- Department of Green Chemistry and Technology</i>	6		2	A:1	180
3	C003534 Urban Mobility and Logistics <i>Giovanni Circella -- Department of Geography</i>	5		2	A:1	150
4	I001439 Environmental Noise <i>Timothy Van Renterghem -- Department of Information Technology</i>	4		2	B:1	120
5	E084571 Urban Analysis and Design <i>Michiel Dehaene -- Department of Architecture and Urban Planning</i>	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 Schampheleere -- Department of Animal Sciences and Aquatic Ecology</i>	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.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I001508 Master's Dissertation <i>Karel De Schamphelaere -- Department of Animal Sciences and Aquatic Ecology</i>	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 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