

Faculty of Bioscience Engineering

Master of Science in Bioscience Engineering: Environmental Technology

Language of instruction: Dutch

Programme version 15

## 1 General Courses

60 credits

### 1.1 Environmental Analysis and Diagnostics

14 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I002668 Analytical Inorganic Chemistry: Instrumental Techniques <i>Gijs Du Laing -- Department of Green Chemistry and Technology</i>	3		1	A:1	90
2	I002676 Analysis of Organic Micropollutants <i>Kristof Demeestere -- Department of Green Chemistry and Technology</i>	3		1	A:2	90
3	I002535 Applied Marine Ecology [en] <i>Colin Janssen -- Department of Animal Sciences and Aquatic Ecology</i>	3		1	A:1	90
4	I002606 Environmental Risk Assessment [en] <i>Karel De Schampelaere -- Department of Animal Sciences and Aquatic Ecology</i>	5		1	A:1	150

### 1.2 Environmental Technology and Engineering

36 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I002618 Process Engineering 2 [en] <i>Paul Van der Meeren -- Department of Green Chemistry and Technology</i>	5		1	A:1	150
2	I002672 Process Control [en] <i>Paul Van Liedekerke -- Department of Data Analysis and Mathematical Modelling</i>	5		1	A:2	150
3	I002682 Environmental Technology: Air <i>Christophe Walgraeve -- Department of Green Chemistry and Technology</i>	5		1	A:1	150
4	I002683 Environmental Technology: Soil <i>Ellen Van De Vijver -- Department of Environment</i>	5		1	A:1	150
5	I002607 Resource Recovery Technology [en] <i>Ramon Ganigüé -- Department of Biotechnology</i>	6		1	A:2	180
6	I002702 Clean Technology: Assessment Methods [en] <i>Sophie Huysveld -- Department of Green Chemistry and Technology</i>	3		1	A:1	90
7	I002684 Environmental Constructions in Practice <i>Eveline Volcke -- Department of Green Chemistry and Technology</i>	7		2	A:J	210

### 1.3 Environmental Legislation and Socio-Economic Aspects

10 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I002619 Management for Engineers [en] <i>Jeroen Buyse -- Department of Agricultural Economics</i>	4		2	A:1	120
2	I002685 Legal Framework for Environmental Technology <i>Hildegard Deweerdt -- Department of Agricultural Economics</i>	6		2	A:1	180

## 2 Elective Courses

30 credits

Subscribe to 30 credit units from the 1 to 5 modules from the following list. Subject to approval by the faculty.  
To obtain the minor, all courses listed in that minor have to be taken.

Full-time standard learning track:

Students can choose which of the elective course units are taken in the first respectively the second standard learning track year (unless otherwise specified); in combination with the general course units, students take a total of 54 to 66 credits per standard learning track year. The sum of the total number of credits taken up over the 2 standard learning track years must be 120 credits.

### 2.1 Minor Environmental Coordination

Nr	Course	CRDT	Ref	MT1	Session	Study
1	F000752 Environmental Economics and Policy <i>Brent Bleys -- Department of Economics</i>	4			B:2	120
2	I001439 Environmental Noise [en] <i>Timothy Van Renterghem -- Department of Information Technology</i>	3			A:1	75
3	I002716 Environmental Impact Assessment <i>Sophie Huysveld -- Department of Green Chemistry and Technology</i>	4			A:2	120
4	I002748 Environmental Coordination <i>Hildegard Deweerdt -- Department of Agricultural Economics</i>	5			A:2	150

## 2.2 Master Specific Courses

### 2.2.1 Environmental Diagnostics and Management

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I002749 Metals and Metalloids in Environment and Technology [en] <i>Filip Tack -- Department of Green Chemistry and Technology</i>	6			A:1	180
2	I002750 Isotopes in Biosciences [en] <i>Pascal Boeckx -- Department of Green Chemistry and Technology</i>	5			A:1	150
3	I002586 Multidisciplinary Analysis of Climate Change [en] <i>Pascal Boeckx -- Department of Green Chemistry and Technology</i>	3			A:2	90
4	I002691 Nature Conservation <i>Lander Baeten -- Department of Environment</i>	4			A:1	120
5	I002698 Water Quality Management [en] <i>Peter Goethals -- Department of Animal Sciences and Aquatic Ecology</i>	4			A:2	120
6	I002751 Principles of Quantitative Water Management <i>Niko Verhoest -- Department of Environment</i>	3			A:2	90
7	I002604 Oceans and Human Health [en] <i>Jana Asselman -- Department of Animal Sciences and Aquatic Ecology</i>	3			A:1	90

### 2.2.2 Environmental Technology and Engineering

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I002608 Decentralized Sanitation and Treatment Technologies for Developing Economies [en] <i>Diederik Rousseau -- Department of Green Chemistry and Technology</i>	6			A:1	180
2	I002752 Advanced Wastewater Treatment Process Design [en] <i>Eveline Volcke -- Department of Green Chemistry and Technology</i>	3			A:1	90
3	I002599 Digitalisation for Resource Recovery [en] <i>Ingmar Nopens -- Department of Data Analysis and Mathematical Modelling</i>	5			B:1	150
4	I002677 Thermochemical Conversion of Biomass <i>Frederik Ronsse -- Department of Green Chemistry and Technology</i>	4			A:2	120
5	I002679 Green Chemistry of Renewable Resources [en] <i>Sven Mangelinckx -- Department of Green Chemistry and Technology</i>	4			A:1	120
6	I002510 Reaction Kinetics and Reactor Design <i>Paul Van der Meeren -- Department of Green Chemistry and Technology</i>	5			A:2	150

### 2.2.3 Multidisciplinary Engineering Tools

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I002452 Geographic Information Systems: Basics <i>Fieke Vancoillie -- Department of Environment</i>	3			A:2	90
2	I002932 Machine Learning for Life Sciences [en] <i>Willem Waegeman -- Department of Data Analysis and Mathematical Modelling</i>	5			A:1	150
3	I002636 Spatio-temporal Models [en] <i>Jan Baetens -- Department of Data Analysis and Mathematical Modelling</i>	5			A:2	150
4	I002719 Modelling and Simulation with Partial Differential Equations in Practice [en] <i>Ingmar Nopens -- Department of Data Analysis and Mathematical Modelling</i>	5			A:1	150
5	I001280 Experimental Design [en] <i>Stijn Luca -- Department of Data Analysis and Mathematical Modelling</i>	3			A:2	75

## 2.3 Entrepreneurship and Management

Nr	Course	CRDT	Ref	MT1	Session	Study
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1	I001949	Entrepreneurship <i>Petra Andries -- Department of Marketing, Innovation and Organisation</i>	3	A:2	75
2	E076460	Dare to Venture [en] <i>Johan Verrue -- Department of Marketing, Innovation and Organisation</i>	4	A:2	120
3	E076471	Dare to Start [en] <i>Frank Gielen -- Department of Information Technology</i>	3	A:2	90
4	E076930	Financial and Cost Price Reporting in Companies	6		180
5	I002720	Consumer Behaviour and Marketing of Bio-industrial products <i>Wim Verbeke -- Department of Agricultural Economics</i>	5	A:2	150
6	I001967	Intellectual Property and Valorization [en] <i>Benedikt Sas -- Department of Food Technology, Safety and Health</i>	3	A:2	90
7	C000833	Project Management <i>Mario Vanhoucke -- Department of Business Informatics and Operations Management</i>	4	A:2	120

## 2.4 Skills and Attitudes

Subscribe to course units from the following list, with no more than 10 credit units with reference a.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I002637 Internship [en, nl] <i>Paul Van der Meeren -- Department of Green Chemistry and Technology</i>	5	a		A:J	150
2	I002638 International Internship [en, nl] <i>Paul Van der Meeren -- Department of Green Chemistry and Technology</i>	5	a		A:J	150
3	I002639 Extended Internship [en, nl] <i>Paul Van der Meeren -- Department of Green Chemistry and Technology</i>	10	a		A:J	300
4	I002640 Extended International Internship [en, nl] <i>Paul Van der Meeren -- Department of Green Chemistry and Technology</i>	10	a		A:J	300
5	I001944 Bio-ethics [en] <i>Farah Focquaert -- Department of Philosophy and Moral Sciences</i>	3			A:1	75
6	C002668 Scientific Communication in English [en] <i>Geert Jacobs -- Department of Linguistics</i>	5			A:2	150
7	I001784 Seminar [en, nl] <i>Mieke Uyttendaele -- Department of Food Technology, Safety and Health</i>	3			A:J	75

## 2.5 Open Choice

Subscribe to course units from courses offered at Ghent University and at the alliance partner VUB, including the [Ghent University Elective Courses](#).

A maximum of 2 such courses is allowed.

Maximum 8 credit units language courses are allowed within this master programme.

Subject to approval by the Faculty.

## 3 Master's Dissertation

30 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I001479 Master's Dissertation <i>Kristof Demeestere -- Department of Green Chemistry and Technology</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 2024-2025	f: annually, from 2025-2026	i: annually, from 2026-2027
b: tri-annually	d: bi-annually, from 2024-2025	g: bi-annually, from 2025-2026	j: bi-annually, from 2026-2027
	e: tri-annually, from 2024-2025	h: tri-annually, from 2025-2026	k: tri-annually, from 2026-2027