GHENT UNIVERSITY

Study Programme

Academic year 2023-2024

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 *Gijs Du Laing -- Department of Green Chemistry and Technology*	3		1	A:1	90
2	I002676	Analysis of Organic Micropollutants *Kristof Demeestere -- Department of Green Chemistry and Technology*	3		1	A:2	90
3	I002535	Applied Marine Ecology [en] *Colin Janssen -- Department of Animal Sciences and Aquatic Ecology*	3		1	A:1	90
4	I002606	Environmental Risk Assessment [en] *Karel De Schamphelaere -- Department of Animal Sciences and Aquatic Ecology*	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] *Paul Van der Meeren -- Department of Green Chemistry and Technology*	5		1	A:1	150
2	I002672	Process Control [en] *Paul Van Liedekerke -- Department of Data Analysis and Mathematical Modelling*	5		1	A:2	150
3	I002682	Environmental Technology: Air *Christophe Walgraeve -- Department of Green Chemistry and Technology*	5		1	A:1	150
4	I002683	Environmental Technology: Soil *Ellen Van De Vijver -- Department of Environment*	5		1	A:1	150
5	I002607	Resource Recovery Technology [en] *Ramon Ganigué -- Department of Biotechnology*	6		1	A:2	180
6	I002702	Clean Technology: Assessment Methods [en] *Sophie Huysveld -- Department of Green Chemistry and Technology*	3		1	A:1	90
7	I002684	Environmental Constructions in Practice *Eveline Volcke -- Department of Green Chemistry and Technology*	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] *Jeroen Buysse -- Department of Agricultural Economics*	4		2	A:1	120
2	I002685	Legal Framework for Environmental Technology *Hildegard Deweerdt -- Department of Agricultural Economics*	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 *Brent Bleys -- Department of Economics*	4			B:2	120
2	I001439	Environmental Noise [en] *Timothy Van Renterghem -- Department of Information Technology*	3			A:1	75
3	I002716	Environmental Impact Assessment *Sophie Huysveld -- Department of Green Chemistry and Technology*	4			A:2	120
4	I002748	Environmental Coordination *Hildegard Deweerdt -- Department of Agricultural Economics*	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] *Filip Tack -- Department of Green Chemistry and Technology*	6			A:1	180
2	I002750	Isotopes in Biosciences [en] *Pascal Boeckx -- Department of Green Chemistry and Technology*	5			A:1	150
3	I002586	Multidisciplinary Analysis of Climate Change [en] *Pascal Boeckx -- Department of Green Chemistry and Technology*	3			A:2	90
4	I002691	Nature Conservation *Lander Baeten -- Department of Environment*	4			A:1	120
5	I002698	Water Quality Management [en] *Peter Goethals -- Department of Animal Sciences and Aquatic Ecology*	4			A:2	120
6	I002751	Principles of Quantitative Water Management *Niko Verhoest -- Department of Environment*	3			A:2	90
7	I002604	Oceans and Human Health [en] *Jana Asselman -- Department of Animal Sciences and Aquatic Ecology*	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] *Diederik Rousseau -- Department of Green Chemistry and Technology*	6			A:1	180
2	I002752	Advanced Wastewater Treatment Process Design [en] *Eveline Volcke -- Department of Green Chemistry and Technology*	3			A:1	90
3	I002599	Digitalisation for Resource Recovery [en] *Ingmar Nopens -- Department of Data Analysis and Mathematical Modelling*	5			B:1	150
4	I002677	Thermochemical Conversion of Biomass *Frederik Ronsse -- Department of Green Chemistry and Technology*	4			A:2	120
5	I002679	Green Chemistry of Renewable Resources [en] *Sven Mangelinckx -- Department of Green Chemistry and Technology*	4			A:1	120
6	I002510	Reaction Kinetics and Reactor Design *Paul Van der Meeren -- Department of Green Chemistry and Technology*	5			A:2	150

2.2.3 Multidisciplinary Engineering Tools

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

2.3 Entrepreneurship and Management

Nr	Course		CRDT	Ref	MT1	Session	Study

1	I001949	Entrepreneurship *Petra Andries -- Department of Marketing, Innovation and Organisation*	3		A:2	75
2	E076460	Dare to Venture [en] *Johan Verrue -- Department of Marketing, Innovation and Organisation*	4		A:2	120
3	E076471	Dare to Start [en] *Frank Gielen -- Department of Information Technology*	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 *Wim Verbeke -- Department of Agricultural Economics*	5		A:2	150
6	I001967	Intellectual Property and Valorization [en] *Benedikt Sas -- Department of Food Technology, Safety and Health*	3		A:2	90
7	C000833	Project Management *Mario Vanhoucke -- Department of Business Informatics and Operations Management*	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] *Paul Van der Meeren -- Department of Green Chemistry and Technology*	5	a		A:J	150
2	I002638	International Internship [en, nl] *Paul Van der Meeren -- Department of Green Chemistry and Technology*	5	a		A:J	150
3	I002639	Extended Internship [en, nl] *Paul Van der Meeren -- Department of Green Chemistry and Technology*	10	a		A:J	300
4	I002640	Extended International Internship [en, nl] *Paul Van der Meeren -- Department of Green Chemistry and Technology*	10	a		A:J	300
5	I001944	Bio-ethics [en] *Farah Focquaert -- Department of Philosophy and Moral Sciences*	3			A:1	75
6	C002668	Scientific Communication in English [en] *Geert Jacobs -- Department of Linguistics*	5			A:2	150
7	I001784	Seminar [en, nl] *Mieke Uyttendaele -- Department of Food Technology, Safety and Health*	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 *Kristof Demeestere -- Department of Green Chemistry and Technology*	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 cours name, using the following ISO codes:

bg: Bulgarian	de: German	es: Spanish	ja: Japanese	pl: Polish	sh: Kroatian/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 in 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