

Faculty of Bioscience Engineering

Master of Science in Bioscience Engineering: Environmental Technology

Language of instruction: Dutch

Programme version 17

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	I003071 Process Engineering 2 [en] <i>Paul Van der Meeren -- Department of Green Chemistry and Technology</i>	5		1	A:1	150
2	I003080 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 Ganigú -- Department of Biotechnology</i>	6		1	A:2	180
6	I003062 Sustainability Assessment [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	I003068 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 2 modules from the following list, of which at least 15 credit units from module 2.1. and at least 5 credit units from module 2.2.

2.1 Discipline-Specific Courses

Subscribe to at least 15 credit units from no less than 1 and no more than 2 module(s) from the following list.
To obtain the minor, all courses listed in that minor have to be taken.

2.1.1 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

2.1.2 Elective List

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I003016 Metals and Metalloids in Environment and Technology [en] <i>Filip Tack -- Department of Green Chemistry and Technology</i>	5			A:1	150
2	I002698 Water Quality Management [en] <i>Peter Goethals -- Department of Animal Sciences and Aquatic Ecology</i>	4			A:2	120
3	I002751 Principles of Quantitative Water Management <i>Niko Verhoest -- Department of Environment</i>	3			A:2	90
4	I002604 Oceans and Human Health [en] <i>Jana Asselman -- Department of Animal Sciences and Aquatic Ecology</i>	3			A:1	90
5	I002752 Advanced Wastewater Treatment Process Design [en] <i>Eveline Volcke -- Department of Green Chemistry and Technology</i>	3			A:1	90
6	I002608 Decentralized Sanitation and Treatment Technologies for Developing Economies [en] <i>Korneel Rabaey -- Department of Biotechnology</i>	6			A:1	180
7	I002510 Reaction Kinetics and Reactor Design <i>Paul Van der Meeren -- Department of Green Chemistry and Technology</i>	5			A:2	150
8	I002677 Thermochemical Conversion of Biomass <i>Stef Ghysels -- Department of Green Chemistry and Technology</i>	4			A:2	120
9	I002679 Green Chemistry of Renewable Resources [en] <i>Sven Mangelinckx -- Department of Green Chemistry and Technology</i>	4			A:1	120
10	I002452 Geographic Information Systems: Basics <i>Fieke Vancoillie -- Department of Environment</i>	3			A:2	90

2.2 Cross-Disciplinary Elective Courses

Subscribe to no less than 5 and no more than 15 credit units from no less than 1 and no more than 2 module(s) from the following list. A minimum of 5 credit units is required from module 2.1.1 "Cross-Disciplinary Elective Set for Bioscience Engineers". Courses for which the final competencies are already (largely) achieved by another course in the curriculum cannot be included as part of the elective set.
Subject to approval by the faculty.

2.2.1 Elective Set

2.2.1.1 Cross-Disciplinary Elective Set for Bioscience Engineers

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	I003053 Machine Learning for Life Sciences [en] <i>Willem Waegeman -- Department of Data Analysis and Mathematical Modelling</i>	4			A:1	120
2	I003054 Computer Vision for Life Sciences [en] <i>Jan Verwaeren -- Department of Data Analysis and Mathematical Modelling</i>	5			A:2	150
3	I003021 Advanced Biosystems Modelling [en] <i>Paul Van Liedekerke -- Department of Data Analysis and Mathematical Modelling</i>	5			A:2	150
4	I001280 Experimental Design [en] <i>Stijn Luca -- Department of Data Analysis and Mathematical Modelling</i>	3			A:2	75
5	I003068 Management for Engineers [en] <i>Jeroen Buysse -- Department of Agricultural Economics</i>	4			A:1	120
6	I002718 Economics and Management of Natural Resources [en] <i>Stijn Speelman -- Department of Agricultural Economics</i>	4			A:2	120
7	I002750 Isotopes in Biosciences [en] <i>Pascal Boeckx -- Department of Green Chemistry and Technology</i>	5			A:1	150

8	I003055	Biodiversity and Nature Conservation <i>Lander Baeten -- Department of Environment</i>	4		A:1	120
9	I002586	Multidisciplinary Analysis of Climate Change [en] <i>Pascal Boeckx -- Department of Green Chemistry and Technology</i>	3		A:2	90
10	I003056	Human Nutrition and Health [en] <i>John Van Camp -- Department of Food Technology, Safety and Health</i>	5		A:1	150
11	I002758	Food Marketing and Consumer Behaviour [en] <i>Wim Verbeke -- Department of Agricultural Economics</i>	5		A:1	150
12	I003067	Bioethics [en] <i>Michiel De Proost -- Department of Philosophy and Moral Sciences</i>	3		A:1	75
13	I002637	Internship [en, nl] <i>Peter Ragaert -- Department of Food Technology, Safety and Health</i>	5	A	A:J	150
14	I002638	International Internship [en, nl] <i>Peter Ragaert -- Department of Food Technology, Safety and Health</i>	5	A	A:J	150
15	I002639	Extended Internship [en, nl] <i>Peter Ragaert -- Department of Food Technology, Safety and Health</i>	10	A	A:J	300
16	I002640	Extended International Internship [en, nl] <i>Peter Ragaert -- Department of Food Technology, Safety and Health</i>	10	A	A:J	300

2.2.2 Open Choice

Subscribe to course units from courses offered at Ghent University, including the [Ghent University Elective Courses](#).
Maximum 8 credit units language courses are allowed within this master programme.

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 2026-2027	f: annually, from 2027-2028	i: annually, from 2028-2029
b: tri-annually	d: bi-annually, from 2026-2027	g: bi-annually, from 2027-2028	j: bi-annually, from 2028-2029
	e: tri-annually, from 2026-2027	h: tri-annually, from 2027-2028	k: tri-annually, from 2028-2029