GHENT UNIVERSITY

Study Programme

Academic year 2025-2026

Faculty of Bioscience Engineering

Bachelor of Science in Bioscience Engineering

Language of instruction: Dutch

Programme version 2

1 General Courses — 150 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	I002907	Analysis: Functions of One Variable *Jan Baetens -- Department of Data Analysis and Mathematical Modelling*	5		1	A:1	150
2	I002417	Mechanics, Vibrations and Waves *Dirk Poelman -- Department of Solid State Sciences*	5		1	A:1	150
3	I002418	General and Inorganic Chemistry: Structure *Rik Van Deun -- Department of Chemistry*	5		1	A:1	150
4	I002419	Cellular and Molecular Biology *Tina Kyndt -- Department of Biotechnology*	4		1	A:1	120
5	I002420	Applied Botany: Morphology and Diversity *Pieter De Frenne -- Department of Environment*	5		1	A:1	150
6	I002908	Scientific Computing *Jan Verwaeren -- Department of Data Analysis and Mathematical Modelling*	4		1	A:1	120
7	I002909	Linear Algebra *Willem Waegeman -- Department of Data Analysis and Mathematical Modelling*	4		1	A:2	120
8	I002910	Analysis: Functions of Several Variables *Jan Baetens -- Department of Data Analysis and Mathematical Modelling*	4		1	A:2	120
9	I002423	Thermodynamic Processes *Frederik Ronsse -- Department of Green Chemistry and Technology*	5		1	A:2	150
10	I002424	General and Inorganic Chemistry: Reactivity and Analysis *Rik Van Deun -- Department of Chemistry*	6		1	A:2	180
11	I002425	Applied Zoology: Invertebrates *Luc Tirry -- Department of Plants and Crops*	5		1	A:2	150
12	I002911	Earth Sciences *David Van Rooij -- Department of Geology*	4		1	A:2	120
13	I002427	Ecology *Kathy Steppe -- Department of Plants and Crops*	4		1	A:2	120
14	I002428	Differential Equations *Michiel Stock -- Department of Data Analysis and Mathematical Modelling*	5		2	A:1	150
15	I002429	Electricity, Magnetism and Sensors *Toon Verstraelen -- Department of Physics and Astronomy*	5		2	A:1	150
16	I002430	Applied Zoology: Vertebrates *Luc Tirry -- Department of Plants and Crops*	4		2	A:1	120
17	I002431	Applied Botany: Physiology *Kathy Steppe -- Department of Plants and Crops*	5		2	A:1	150
18	I002432	Organic Chemistry: Structure *Matthias D'hooghe -- Department of Green Chemistry and Technology*	3		2	A:1	90
19	I002433	Biochemistry *Els Van Damme -- Department of Biotechnology*	4		2	A:1	120
20	I002439	Environmental Sciences *Philippe De Smedt -- Department of Environment*	4		2	A:1	120
21	I002912	Sustainable Development in Production and Consumption Systems *Joost Dessein -- Department of Agricultural Economics*	4		2	A:2	120

22	I002435	Probabilistic Models *Bernard De Baets -- Department of Data Analysis and Mathematical Modelling*	5		2	A:2	150
23	I002436	Microbiology *Wim Soetaert -- Department of Biotechnology*	5		2	A:2	150
24	I002437	Organic Chemistry: Reactivity *Matthias D'hooghe -- Department of Green Chemistry and Technology*	7		2	A:2	210
25	I002913	Fluid Mechanics *Niko Verhoest -- Department of Environment*	4		2	A:2	120
26	I002440	Data Science *Jan Verwaeren -- Department of Data Analysis and Mathematical Modelling*	5		2	A:2	150
27	I002441	Statistical Data Processing *Stijn Luca -- Department of Data Analysis and Mathematical Modelling*	4		3	A:1	120
28	I002443	Heat and Mass Transport *Jan Pieters -- Department of Plants and Crops*	4		3	A:1	120
29	I002446	Economics *Wim Verbeke -- Department of Agricultural Economics*	4		3	A:1	120
30	I003070	Process Engineering [en] *Jo Dewulf -- Department of Green Chemistry and Technology*	4		3	A:2	120
31	I002444	Chemical Analytical Techniques *Kristof Demeestere -- Department of Green Chemistry and Technology*	4		3	A:2	120
32	I002445	Modelling and Simulation of Biosystems *Michiel Stock -- Department of Data Analysis and Mathematical Modelling*	4		3	A:2	120
33	I002447	Bachelor Thesis *Niko Verhoest -- Department of Environment*	6		3	A:J	180

2 Majors 30 credits

Subscribe to 1 major from the following list.

2.1 Major Forest and Nature Management 30 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	I002455	Soil Properties and Soil Processes *Stefaan De Neve -- Department of Environment*	5		3	A:1	150
2	I002450	Remote Sensing *Frieke Vancoillie -- Department of Environment*	5		3	A:1	150
3	I002457	Vegetation Science *Lander Baeten -- Department of Environment*	3		3	A:1	90
4	I002458	Basics of Forest and Wood Science *Kris Verheyen -- Department of Environment*	6		3	A:J	180
5	I002751	Principles of Quantitative Water Management *Niko Verhoest -- Department of Environment*	3		3	A:2	90
6	I002414	Geographic Information Systems: Basics and Applications *Frieke Vancoillie -- Department of Environment*	5		3	A:2	150
7	I002461	Integrated Practicum Forest and Nature *Kris Verheyen -- Department of Environment*	3		3	A:2	90

2.2 Major Cell and Gene Biotechnology 30 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	I002511	Biocatalysis and Enzyme Technology *Tom Desmet -- Department of Biotechnology*	5		3	A:1	150
2	I002521	Cell Biology *Laurens Pauwels -- Department of Biotechnology*	5		3	A:1	150
3	I003073	Gene Technology and Molecular Diagnostics [en] *Tina Kyndt -- Department of Biotechnology*	6		3	A:1	180
4	I002505	Microbial Ecological Processes *Nico Boon -- Department of Biotechnology*	4		3	A:1	120
5	I002518	Applied Genetics *Thomas Van Leeuwen -- Department of Plants and Crops*	5		3	A:2	150
6	I003074	Molecular Biology of Plant, Animal and Human Associated Bacteria [en]	5		3	A:2	150

Monica Höfte -- Department of Plants and Crops

2.3 Major Chemistry and Food — 30 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	I003057	Microbiology of Bio-based Products *Frank Devlieghere -- Department of Food Technology, Safety and Health*	5		3	A:1	150
2	I002511	Biocatalysis and Enzyme Technology *Tom Desmet -- Department of Biotechnology*	5		3	A:1	150
3	I003058	Green Organic Chemistry *Matthias D'hooghe -- Department of Green Chemistry and Technology*	5		3	A:1	150
4	I002513	Food Chemistry *Bruno De Meulenaer -- Department of Food Technology, Safety and Health*	5		3	A:2	150
5	I002510	Reaction Kinetics and Reactor Design *Paul Van der Meeren -- Department of Green Chemistry and Technology*	5		3	A:2	150
6	I003059	Physical and Chemical Modification of Renewable Resources *Sven Mangelinckx -- Department of Green Chemistry and Technology*	5		3	A:2	150

2.4 Major Agricultural Sciences — 30 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	I002455	Soil Properties and Soil Processes *Stefaan De Neve -- Department of Environment*	6		3	B:1	180
2	I002515	Crop Husbandry *Steven Maenhout -- Department of Plants and Crops*	5		3	A:1	150
3	I002517	Animal Production Systems *Stefaan De Smet -- Department of Animal Sciences and Aquatic Ecology*	5		3	A:1	150
4	I003063	Molecular Tools for Agriculture [en] *Tina Kyndt -- Department of Biotechnology*	3		3	A:1	90
5	I002518	Applied Genetics *Thomas Van Leeuwen -- Department of Plants and Crops*	5		3	A:2	150
6	I002645	Identification and Diagnosis of Plant Diseases, Pests and Weeds *Benny De Cauwer -- Department of Plants and Crops*	6		3	A:2	180

2.5 Major Land, Water and Climate — 30 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	I002455	Soil Properties and Soil Processes *Stefaan De Neve -- Department of Environment*	6		3	B:1	180
2	I002449	Hydrological Processes and Hydrometry *Niko Verhoest -- Department of Environment*	3		3	A:1	90
3	I002450	Remote Sensing *Frieke Vancoillie -- Department of Environment*	5		3	A:1	150
4	I002504	Applied Freshwater Ecology [en] *Peter Goethals -- Department of Animal Sciences and Aquatic Ecology*	3		3	A:1	90
5	I002452	Geographic Information Systems: Basics *Frieke Vancoillie -- Department of Environment*	3		3	A:2	90
6	I002453	Biogeochemical Cycles *Steven Sleutel -- Department of Environment*	5		3	A:2	150
7	I002655	Meteorology and Ecoclimatology *Hans Verbeeck -- Department of Environment*	5		3	A:2	150

2.6 Major Environmental Technology — 30 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	I002503	Environmental Chemistry *Filip Tack -- Department of Green Chemistry and Technology*	6		3	A:1	180
2	I002504	Applied Freshwater Ecology [en] *Peter Goethals -- Department of Animal Sciences and Aquatic Ecology*	3		3	A:1	90
3	I002505	Microbial Ecological Processes *Nico Boon -- Department of Biotechnology*	4		3	A:1	120
4	I003061	Concepts for Sustainable Systems Engineering [en] *Sophie Huysveld -- Department of Green Chemistry and Technology*	3		3	A:1	90

5	I002507	Environmental Technology: Solid Waste Streams *Frederik Ronsse -- Department of Green Chemistry and Technology*	4	3	A:2	120
6	I003072	Environmental Technology: Water [en] *Jo De Vrieze -- Department of Biotechnology*	6	3	A:2	180
7	E039060	Sustainable Energy and Rational Use of Energy [en] *Filip Strubbe -- Department of Electronics and Information Systems*	4	3	A:2	120

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 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