GHENT UNIVERSITY

Study Programme

Academic year 2025-2026

Faculty of Sciences,Faculty of Engineering and Architecture,Faculty of Bioscience Engineering

Master of Science in Bioinformatics -- Bioscience Engineering

Language of instruction: English

Programme version 7

1 General Courses 33 credits

1.1 Applied Bioinformatics Module 33 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	C003694	Statistical Genomics *Christophe Vanderaa -- Department of Mathematics, Computer Science and Statistics* Indicative price: € 0	6			A:1	180
2	C003695	Applied High-throughput Analysis *Tim De Meyer -- Department of Data Analysis and Mathematical Modelling* Indicative price: € 0	6		1	A:1	180
3	C003696	Genome Biology *Klaas Vandepoele -- Department of Plant Biotechnology and Bioinformatics* Indicative price: € 0	6		1	A:2	180
4	C004000	Integrative Biology *Kathleen Marchal -- Department of Plant Biotechnology and Bioinformatics* Indicative price: € 0	3		1	A:2	80
5	C003698	Design Project *Kathleen Marchal -- Department of Plant Biotechnology and Bioinformatics* Indicative price: € 0	9		1	A:J	270
6	C004122	Capita Selecta in Bioinformatics *Kathleen Marchal -- Department of Plant Biotechnology and Bioinformatics* Indicative price: € 0	3			A:1	75

2 Courses Related to the Main Subject

2.1 Bioscience Engineering Module

Subscribe to 1 module from the following list.
Students of the Bachelor of Science in Biochemistry and Biotechnology (or an equivalent) subscribe for "Reorientation B.Sc. in Biochemistry and Biotechnology".
Students of the Bachelor of Science in Bioscience Engineering (or an equivalent) and students who succesfully completed the preparatory course subscribe for "Reorientation B.Sc. in Bioscience Engineering".
Subject to approval by the curriculum committee.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	I002612	Industrial Biotechnology *Wim Soetaert -- Department of Biotechnology* Indicative price: € 15	5		2	A:1	150
2	I001280	Experimental Design *Stijn Luca -- Department of Data Analysis and Mathematical Modelling* Indicative price: € 15	3		2	A:2	75
3	I003054	Computer Vision for Life Sciences *Jan Verwaeren -- Department of Data Analysis and Mathematical Modelling* Indicative price: € 0	5		2	A:2	150

2.1.1 Reorientation B.Sc. in Biochemistry and Biotechnology 13 credits

Nr	Course		CRDT	Ref	MT1	Session	Study

1	I003070	Process Engineering *Jo Dewulf -- Department of Green Chemistry and Technology* Indicative price: € 15	4	1	A:2	120
2	I002440	Data Science [nl] *Jan Verwaeren -- Department of Data Analysis and Mathematical Modelling* Indicative price: € 0	5	1	A:2	150
3	I002445	Modelling and Simulation of Biosystems [nl] *Michiel Stock -- Department of Data Analysis and Mathematical Modelling* Indicative price: € 15	4	2	A:2	120

2.1.2 Reorientation B.Sc. in Bioscience Engineering — 9 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	I002611	Plant Biotechnology *Laurens Pauwels -- Department of Biotechnology* Indicative price: € 3	5		2	A:2	150
2	I002615	Protein Chemistry *Els Van Damme -- Department of Biotechnology* Indicative price: € 0	4		2	A:1	120

2.2 Applied Mathematics and Informatics Module — 19 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	C004611	Biological Databases *Wim Van Criekinge -- Department of Data Analysis and Mathematical Modelling* Indicative price: unknown	3		1	A:2	90
2	C003701	Selected Topics in Mathematical Optimization *Paul Van Liedekerke -- Department of Data Analysis and Mathematical Modelling* Indicative price: € 0	3			A:1	75
3	C003083	Bioinformatics Algorithms *Veerle Fack -- Department of Mathematics, Computer Science and Statistics* Indicative price: € 30	3		1	A:2	80
4	I003053	Machine Learning for Life Sciences *Willem Waegeman -- Department of Data Analysis and Mathematical Modelling* Indicative price: € 0	4			A:1	120
5	C004612	Advanced AI for Bioinformatics *Willem Waegeman -- Department of Data Analysis and Mathematical Modelling* Indicative price: € 0	6			A:1	180

2.3 Master's Dissertation — 30 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	C003714	Master's Dissertation Indicative price: unknown	30		2	A:J	900

3 Elective Courses

Subscribe to: 12 credit units (students with module Reorientation B.Sc. in Biochemistry and Biotechnology) or 16 credit units (students with module Reorientation B.Sc. in Bioscience Engineering).

3.1 Elective Courses UGent

Subscribe to courses from the master programmes of Ghent University, including the Intensive Programmes of the Faculty of Bioscience Engineering. A minimum of 5 credit units is required from the "Cross-Disciplinary Elective Set for Bioscience Engineers". With remaining credit units, subscribe for no more than 5 credit units outside of the domain of bioinformatics and related sciences. These 5 credit units may include the Ghent University Elective Courses. Subject to approval by the curriculum committee.

Programme related study costs

Type: Laptop

Name: laptop
Indicative price: € 1,000
Optional: No
Fulltime standard learning track year: 1
Available through Student Association : No
Usability and Lifetime within the Course Unit : intensive
Usability and Lifetime within the Study Programme : intensive

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

Learning materials

The prices stated are indicative and subject to fluctuations.
The list of learning materials per course unit can be found in the course sheets.