

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

Master of Science in Bioinformatics -- Engineering

Language of instruction: English

Programme version 5

1 General Courses 33 credits

1.1 Applied Bioinformatics Module 33 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C003694 Statistical Genomics <i>Koen Van den Berge -- Department of Mathematics, Computer Science and Statistics</i>	6			A:1	180
2	C003695 Applied High-throughput Analysis <i>Tim De Meyer -- Department of Data Analysis and Mathematical Modelling</i>	6		1	A:1	180
3	C003696 Genome Biology <i>Yves Van de Peer -- Department of Plant Biotechnology and Bioinformatics</i>	6		1	A:2	180
4	C004000 Integrative Biology <i>Kathleen Marchal -- Department of Plant Biotechnology and Bioinformatics</i>	3		1	A:2	80
5	C003698 Design Project <i>Jan Fostier -- Department of Information Technology</i>	9		1	A:J	270
6	C004122 Capita Selecta in Bioinformatics <i>Yves Van de Peer -- Department of Plant Biotechnology and Bioinformatics</i>	3			A:1	75

2 Courses Related to the Main Subject

2.1 Engineering Module 36 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E017930 Parallel and Distributed Software Systems <i>Jan Fostier -- Department of Information Technology</i>	6		1	A:1	180
2	C003711 Computational Challenges in Bioinformatics <i>Jan Fostier -- Department of Information Technology</i>	6		1	A:2	180
3	E061330 Machine Learning <i>Joni Dambre -- Department of Electronics and Information Systems</i>	6		2	B:1	180
4	E004120 Optimisation Techniques <i>Ljubomir Jovanov -- Department of Telecommunications and Information Processing</i>	6		2	B:2	180

2.1.1 Elective Course List 12 credits

Subscribe to 12 credit units from the following list.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E034140 Parallel Computer Systems <i>Lieven Eeckhout -- Department of Electronics and Information Systems</i>	6			A:1	180
2	E003600 Information Theory <i>Heidi Steendam -- Department of Telecommunications and Information Processing</i>	6			B:2	180
3	E019400 Information Security <i>Eric Laermans -- Department of Information Technology</i>	6			B:2	180
4	E017822 Software Architecture <i>Frank Gielen -- Department of Information Technology</i>	4				120
5	E092621 Modelling of Physiological Systems <i>Patrick Segers -- Department of Electronics and Information Systems</i>	6			A:2	180

6	E074011	Quantitative Cell and Tissue Analysis <i>An Hendrix -- Department of Human Structure and Repair</i>	6	A:1	180
7	E003421	Estimation and Decision Techniques <i>Hiep Luong -- Department of Telecommunications and Information Processing</i>	4	A:1	120
8	C003399	Computerintensive Statistical Methods <i>Dieter Fiems -- Department of Telecommunications and Information Processing</i>	5	A:2	150
9	E018210	Big Data Science <i>Dieter De Witte -- Department of Electronics and Information Systems</i>	6	A:2	180
10	E016330	Artificial Intelligence <i>Aleksandra Pizurica -- Department of Telecommunications and Information Processing</i>	6	A:1	180
11	F000918	Deep Learning <i>Joni Dambre -- Department of Electronics and Information Systems</i>	6	A:2	180
12	E061340	Machine-learning Based Natural Language Processing <i>Chris Develder -- Department of Information Technology</i>	4	A:2	120
13	E016340	Probabilistic Graphical Models <i>Aleksandra Pizurica -- Department of Telecommunications and Information Processing</i>	4	A:2	120

2.2 Biology Module

9 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C003712 Cellular and Molecular Biology <i>Sofie Goormachtig -- Department of Plant Biotechnology and Bioinformatics</i>	6		1	A:1	180
2	C003713 Introduction to Bioinformatics <i>Kathleen Marchal -- Department of Plant Biotechnology and Bioinformatics</i>	3		1	A:2	90

2.3 Master's Dissertation

30 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C003720 Master's Dissertation <i>N. N.</i>	30		2	A:J	900

3 Elective Courses

12 credits

Subscribe to no less than 1 and no more than 2 modules from the following list. Subject to approval by the faculty.

3.1 Elective Course List

Subscribe to 6 credit units from the following list.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C004001 Internship <i>N. N.</i>	6			A:1	150

3.2 Elective Courses UGent

Subscribe to no less than 6 and no more than 12 credit units from the courses of Ghent University including the [Ghent University elective course list](#). Subject to approval by the curriculum committee.

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 2022-2023	f: annually, from 2023-2024	i: annually, from 2024-2025
b: tri-annually	d: bi-annually, from 2022-2023	g: bi-annually, from 2023-2024	j: bi-annually, from 2024-2025
	e: tri-annually, from 2022-2023	h: tri-annually, from 2023-2024	k: tri-annually, from 2024-2025