GHENT UNIVERSITY

Study Programme

Academic year 2021-2022

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 *Koen Van den Berge -- Department of Mathematics, Computer Science and Statistics*	6			A:1	180
2	C003695	Applied High-throughput Analysis *Tim De Meyer -- Department of Data Analysis and Mathematical Modelling*	6		1	A:1	180
3	C003696	Genome Biology *Yves Van de Peer -- Department of Plant Biotechnology and Bioinformatics*	6		1	A:2	180
4	C004000	Integrative Biology *Kathleen Marchal -- Department of Plant Biotechnology and Bioinformatics*	3		1	A:2	80
5	C003698	Design Project *Jan Fostier -- Department of Information Technology*	9		1	A:J	270
6	C004122	Capita Selecta in Bioinformatics *Yves Van de Peer -- Department of Plant Biotechnology and Bioinformatics*	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 *Jan Fostier -- Department of Information Technology*	6		1	A:1	180
2	C003711	Computational Challenges in Bioinformatics *Jan Fostier -- Department of Information Technology*	6		1	A:2	180
3	E061330	Machine Learning *Joni Dambre -- Department of Electronics and Information Systems*	6		2	B:1	180
4	E004120	Optimisation Techniques *Ljubomir Jovanov -- Department of Telecommunications and Information Processing*	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 *Lieven Eeckhout -- Department of Electronics and Information Systems*	6			A:1	180
2	E003600	Information Theory *Heidi Steendam -- Department of Telecommunications and Information Processing*	6			B:2	180
3	E019400	Information Security *Eric Laermans -- Department of Information Technology*	6			B:2	180
4	E017822	Software Architecture *Frank Gielen -- Department of Information Technology*	4				120
5	E092621	Modelling of Physiological Systems *Patrick Segers -- Department of Electronics and Information Systems*	6			A:2	180

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

2.2 Biology Module 9 credits

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

2.3 Master's Dissertation 30 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	C003720	Master's Dissertation *N. N.*	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 *N. N.*	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 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 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