

Faculty of Sciences

Exchange Programme in Bioinformatics (master's level)

Language of instruction: English

Programme version 7

## 1 General Courses

The exchange programme contains a preferred list of English courses taught at UGent of the Master of Science in Bioinformatics.

Tips Learning Agreement:

- Please check the [departmental rules](#) for incoming students.
- A minimum number of 20 ECTS per semester (or 40 ECTS per year) should be chosen.
- 80% of the credits should be chosen from the course programme in Bioinformatics.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C003694 Statistical Genomics Lieven Clement -- Department of Applied Mathematics and Computer Science	6			A:1	180
2	C003695 Applied High-throughput Analysis Tim De Meyer -- Department of Data Analysis and Mathematical Modelling	6			A:1	180
3	C003696 Genome Biology Klaas Vandepoele -- Department of Plant Biotechnology and Bioinformatics	6			A:2	180
4	C004000 Integrative Biology Kathleen Marchal -- Department of Plant Biotechnology and Bioinformatics	3			A:2	80
5	C004122 Capita Selecta in Bioinformatics Kathleen Marchal -- Department of Plant Biotechnology and Bioinformatics	3			A:1	75

### 1.1 Systems Biology Module

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C003709 Evolutionary Biology Kathleen Marchal -- Department of Information Technology	3			A:2	80
2	C003527 Biostatistics Kathleen Marchal -- Department of Information Technology	3			B:1	80
3	C003617 Modelling of Biological Systems Steven Maere -- Department of Plant Biotechnology and Bioinformatics	3			A:1	80
4	C003086 Proteomics Bart Devreese -- Department of Biochemistry, Physiology and Microbiology	3			A:1	80

### 1.2 Bioscience Engineering Module

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I002617 Bio-imaging and Image Informatics Andre Skirtach -- Department of Biotechnology	4			A:1	120
2	I002611 Plant Biotechnology	5			A:2	150
3	I002615 Protein Chemistry Els Van Damme -- Department of Biotechnology	4			A:1	120
4	I002612 Industrial Biotechnology Wim Soetaert -- Department of Biotechnology	5			A:1	150
5	I002618 Process Engineering 2 Paul Van der Meeren -- Department of Green Chemistry and Technology	5			A:1	150

### 1.3 Engineering Module

The following courses are intended for students with an advanced engineering and/or computer science background rather than molecular biology.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E017930 Parallel and Distributed Software Systems Filip De Turck -- Department of Information Technology	6			A:1	180

2	C003711	Computational Challenges in Bioinformatics Peter Dawyndt -- Department of Applied Mathematics and Computer Science	6	A:2	180
3	E061330	Machine Learning Joni Dambre -- Department of Electronics and Information Systems	6	B:1	180
4	E004120	Optimisation Techniques Ljubomir Jovanov -- Department of Telecommunications and Information Processing	6		180

#### 1.4 Applied Mathematics and Informatics Module

Nr	Course	CRDT	Ref	MT1	Session	Study
1	I002642	Biological Databases Wim Van Criekinge -- Department of Data Analysis and Mathematical Modelling	3		B:2	90
2	C002732	Programming for Bioinformatics Pieter De Bleser -- Department of Molecular Biology	6		A:1	160
3	C003701	Selected Topics in Mathematical Optimization Paul Van Liedekerke -- Department of Data Analysis and Mathematical Modelling	3		A:1	75
4	C003083	Bioinformatics Algorithms Veerle Fack -- Department of Applied Mathematics and Computer Science	3		A:2	80
5	I002932	Machine Learning for Life Sciences Willem Waegeman -- Department of Data Analysis and Mathematical Modelling	5		A:1	150

#### 1.5 Biology Module

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

#### Teaching languages

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 2025-2026	f: annually, from 2026-2027	i: annually, from 2027-2028
b: tri-annually	d: bi-annually, from 2025-2026	g: bi-annually, from 2026-2027	j: bi-annually, from 2027-2028
	e: tri-annually, from 2025-2026	h: tri-annually, from 2026-2027	k: tri-annually, from 2027-2028