GHENT UNIVERSITY

Study Programme

Academic year 2024-2025

Faculty of Sciences

Bachelor of Science in Physics and Astronomy

Language of instruction: Dutch

Programme version 11

1 General Courses 165 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	C003080	Programming *Peter Dawyndt -- Department of Mathematics, Computer Science and Statistics*	6	UKV	1	B:1	180
2	C000857	Mechanics *Matthieu Boone -- Department of Physics and Astronomy*	6		1	A:1	180
3	C004203	Mathematical Structures and Functions *Maarten Baes -- Department of Physics and Astronomy*	5		1	A:1	150
4	C004204	Linear Algebra *Arne Van Antwerpen -- Department of Mathematics: Algebra and Geometry*	4		1	A:1	120
5	C004205	Chemistry *Zeger Hens -- Department of Chemistry*	5		1	A:1	150
6	C004206	Stars and Planets *Sven De Rijcke -- Department of Physics and Astronomy*	6		1	A:2	180
7	C004207	Electricity and Magnetism *Bartel Van Waeyenberge -- Department of Solid State Sciences*	5		1	A:2	150
8	C004208	Waves and Optics *Henk Vrielinck -- Department of Solid State Sciences*	5		1	A:2	150
9	C004209	Vector Analysis *Hans Vernaeve -- Department of Mathematics: Analysis, Logic and Discrete Mathematics*	6		1	A:2	180
10	C004210	Theoretical Mechanics *Dimitri Van Neck -- Department of Physics and Astronomy*	6		1	A:2	180
11	C004211	Physics and Astronomy Laboratory 1 *Natalie Jachowicz -- Department of Physics and Astronomy*	6		1	A:J	180
12	C004212	Python for Scientists [en] *Jonathan Leliaert -- Department of Solid State Sciences*	5		2	A:1	150
13	C001195	Statistics and Data Processing *Arjen van der Wel -- Department of Physics and Astronomy*	6		2	A:1	180
14	C004213	Vector and Function Spaces *Jutho Haegeman -- Department of Physics and Astronomy*	5		2	A:1	150
15	C002240	Quantum Mechanics 1 *Jan Ryckebusch -- Department of Physics and Astronomy*	6		2	A:1	180
16	C000104	Thermal Physics *Natalie Jachowicz -- Department of Physics and Astronomy*	6		2	A:2	180
17	C004214	Galaxies *Ilse De Looze -- Department of Physics and Astronomy*	6		2	A:2	180
18	C004215	Materials Physics *Diederik Depla -- Department of Solid State Sciences*	5		2	A:2	150
19	C004216	Relativity and Electromagnetism [en] *Archisman Ghosh -- Department of Physics and Astronomy*	6		2	A:2	180
20	C004217	Groups and Representations *Frank Verstraete -- Department of Physics and Astronomy*	4		2	A:2	120

21	C004218	Physics and Astronomy Laboratory 2 [en, nl] *Bartel Van Waeyenberge -- Department of Solid State Sciences*	6		2	A:J	180
22	C002245	Quantum Mechanics 2 *Dimitri Van Neck -- Department of Physics and Astronomy*	6		3	A:1	180
23	C004219	Complex Analysis *Nele Vandersickel -- Department of Physics and Astronomy*	4		3	A:1	120
24	C004220	Statistical Physics *Jan Ryckebusch -- Department of Physics and Astronomy*	6		3	A:1	180
25	C004221	Structure of the Universe *Arjen van der Wel -- Department of Physics and Astronomy*	6		3	A:1	180
26	C004227	Research Skills [en, nl] *Sven De Rijcke -- Department of Physics and Astronomy*	3		3	A:J	90
27	C004222	Atomic and Molecular Physics *Jonas Joos -- Department of Solid State Sciences*	5		3	A:2	150
28	C001063	Solid State Physics *Christophe Detavernier -- Department of Solid State Sciences*	6		3	A:2	180
29	C004223	Nuclear Physics [en] *Natalie Jachowicz -- Department of Physics and Astronomy*	4		3	A:2	120
30	C004224	Elementary Particle Physics [en] *Juliana Stachurska -- Department of Physics and Astronomy*	4		3	A:2	120
31	C004228	Bachelor's Project Physics and Astronomy [en, nl] *Christophe Detavernier -- Department of Solid State Sciences*	6		3	A:J	180

2 Elective Courses — 15 credits

Subscribe to 1 track from the following list. Subject to approval by the faculty.
Students who have followed the Educational Track, can enter directly into the educational master's programme.

2.1 Physics and Astronomy Track — 15 credits

Subscribe to 15 credit units from no less than 1 and no more than 2 modules from the following list.

2.1.1 Elective Courses Physics and Astronomy

Nr	Course		CRDT	Ref	MT1	Session	Study
1	C004229	Introductory Biophysics [en] *Nele Vandersickel -- Department of Physics and Astronomy*	6			A:1	180
2	C004449	Physics of Surfaces and Thin Films *Diederik Depla -- Department of Solid State Sciences*	6			A:1	180
3	C004225	Physics for Citizens *Steven Caluwaerts -- Department of Physics and Astronomy*	4	UKV		A:1	120
4	C000925	Electronics *Dirk Poelman -- Department of Solid State Sciences*	6			A:2	180
5	C004226	Project Work *Christophe Detavernier -- Department of Solid State Sciences*	3			A:J	75

2.1.2 Elective Courses UGent or other Universities

Courses can be chosen from the bachelor's pogrammes offered by UGent or a Erasmus+ partner university.The course 'Powerful Learning Environments' from the educational track can also be chosen here. At least 9 credits has to be chosen from the course units offered by the Faculty of Sciences and / or the Faculty of Engineering and Architecture and/or their equivalent to the Erasmus+ partner university.

2.2 Educational Track — 15 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	H002169	Powerful Learning Environments *Bram De Wever -- Department of Educational Studies*	6		2	A:1	180
2	H002175	Teaching Methodology: Sciences *Katrien Strubbe -- Department of Chemistry*	6		3	A:J	180
3	H002170	Reference Internship: Sciences *Katrien Strubbe -- Department of Chemistry*	3		3	A:J	90

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 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