

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 Applied Mathematics and Computer Science	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 Vernaeye -- 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] Didar Dobur -- 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 programmes 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 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