



## Faculty of Sciences

### Bachelor of Science in Physics and Astronomy

Language of instruction: Dutch

Programme version 12

1 General Courses						165 credits	
Nr	Course		CRDT	Ref	MT1	Session	Study
1	C003080	Programming <i>Peter Dawyndt -- Department of Mathematics, Computer Science and Statistics</i>	5	UKV	1	A:1	150
2	C000857	Mechanics <i>Matthieu Boone -- Department of Physics and Astronomy</i>	6		1	A:1	180
3	C004203	Mathematical Structures and Functions <i>Jasson Vindas Diaz -- Department of Mathematics: Analysis, Logic and Discrete Mathematics</i>	5		1	A:1	150
4	C004606	Linear Algebra <i>Tom De Medts -- Department of Mathematics, Computer Science and Statistics</i>	5		1	A:1	150
5	C004205	Chemistry <i>Zeger Hens -- Department of Chemistry</i>	5		1	A:1	150
6	C004206	Stars and Planets <i>Sven De Rijcke -- Department of Physics and Astronomy</i>	6		1	A:2	180
7	C004207	Electricity and Magnetism <i>Barrel Van Waeyenberge -- Department of Solid State Sciences</i>	5		1	A:2	150
8	C004208	Waves and Optics <i>Henk Vrielinck -- Department of Solid State Sciences</i>	5		1	A:2	150
9	C004209	Vector Analysis <i>Hans Vernaeve -- Department of Mathematics: Analysis, Logic and Discrete Mathematics</i>	6		1	A:2	180
10	C004210	Theoretical Mechanics <i>Dimitri Van Neck -- Department of Physics and Astronomy</i>	6		1	A:2	180
11	C004211	Physics and Astronomy Laboratory 1 <i>Natalie Jachowicz -- Department of Physics and Astronomy</i>	6		1	A:J	180
12	C004212	Python for Scientists [en] <i>Toon Verstraelen -- Department of Physics and Astronomy</i>	5		2	A:1	150
13	C001195	Statistics and Data Processing <i>Arjen van der Wel -- Department of Physics and Astronomy</i>	6		2	A:1	180
14	C004213	Vector and Function Spaces <i>Jutho Haegeman -- Department of Physics and Astronomy</i>	5		2	A:1	150
15	C002240	Quantum Mechanics 1 <i>Jan Ryckebusch -- Department of Physics and Astronomy</i>	6		2	A:1	180
16	C000104	Thermal Physics <i>Natalie Jachowicz -- Department of Physics and Astronomy</i>	6		2	A:2	180
17	C004214	Galaxies <i>Ilse De Looze -- Department of Physics and Astronomy</i>	6		2	A:2	180
18	C004215	Materials Physics <i>Jolien Dendooven -- Department of Solid State Sciences</i>	5		2	A:2	150
19	C004216	Relativity and Electromagnetism [en] <i>Archisman Ghosh -- Department of Physics and Astronomy</i>	6		2	A:2	180
20	C004217	Groups and Representations <i>Frank Verstraete -- Department of Physics and Astronomy</i>	4		2	A:2	120

21	C004218	Physics and Astronomy Laboratory 2 [en, nl] <i>Bartel Van Waeyenberge -- Department of Solid State Sciences</i>	6	2	A:J	180
22	C002245	Quantum Mechanics 2 <i>Nick Bultinck -- Department of Physics and Astronomy</i>	6	3	A:1	180
23	C004219	Complex Analysis <i>Nele Vandersickel -- Department of Physics and Astronomy</i>	4	3	A:1	120
24	C004220	Statistical Physics <i>Jan Ryckebusch -- Department of Physics and Astronomy</i>	6	3	A:1	180
25	C004221	Structure of the Universe <i>Arjen van der Wel -- Department of Physics and Astronomy</i>	6	3	A:1	180
26	C004227	Research Skills [en, nl] <i>Christophe Detavernier -- Department of Solid State Sciences</i>	3	3	A:J	90
27	C004222	Atomic and Molecular Physics <i>Jonas Joos -- Department of Solid State Sciences</i>	5	3	A:2	150
28	C001063	Solid State Physics <i>Christophe Detavernier -- Department of Solid State Sciences</i>	6	3	A:2	180
29	C004223	Nuclear Physics [en] <i>Natalie Jachowicz -- Department of Physics and Astronomy</i>	4	3	A:2	120
30	C004224	Elementary Particle Physics [en] <i>Didar Dobur -- Department of Physics and Astronomy</i>	4	3	A:2	120
31	C004228	Bachelor's Project Physics and Astronomy [en, nl] <i>Matthieu Boone -- Department of Physics and Astronomy</i>	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] <i>Nele Vandersickel -- Department of Physics and Astronomy</i>	6			A:1	180
2	C004449 Physics of Surfaces and Thin Films <i>Diederik Depla -- Department of Solid State Sciences</i>	6			A:1	180
3	C004225 Physics for Citizens <i>Philippe Smet -- Department of Solid State Sciences</i>	4	UKV		A:1	120
4	C000925 Electronics <i>Dirk Poelman -- Department of Solid State Sciences</i>	6			A:2	180
5	C004226 Project Work <i>Sven De Rijcke -- Department of Physics and Astronomy</i>	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

Subscribe to 15 credit units from the following list.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	H002476 Powerful Learning Environments <i>Bram De Wever -- Department of Educational Studies</i>	6		2	A:1	180
2	H002580 Teaching Methodology: Physics <i>Stefaan Cottenier -- Department of Electromechanical, Systems and Metal Engineering</i>	9	a	3	J:J	270
3	H002608 Teaching Methodology: STEM Focus STEM <i>Katrien Strubbe -- Department of Chemistry</i>	9	b	3	J:J	270
4	H002605 Teaching Methodology: STEM Focus Mathematics <i>Hendrik Van Maldeghem -- Department of Mathematics, Computer Science and Statistics</i>	9	b	3	J:J	270

## 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 2026-2027	f: annually, from 2027-2028	i: annually, from 2028-2029
b: tri-annually	d: bi-annually, from 2026-2027	g: bi-annually, from 2027-2028	j: bi-annually, from 2028-2029
	e: tri-annually, from 2026-2027	h: tri-annually, from 2027-2028	k: tri-annually, from 2028-2029