

Faculty of Sciences

Bachelor of Science in Physics and Astronomy

Language of instruction: Dutch

Programme version 13

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>Maarten Baes -- Department of Physics and Astronomy</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>Bartel 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 Vernaeye -- Department of Mathematics: Analysis, Logic and Discrete Mathematics</i>	6		1	A:2	180
10	C004210 Theoretical Mechanics <i>Sven De Rijcke -- 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	C004649 Scientific Computing for Physicists [en] <i>Jonathan Leliaert -- Department of Solid State Sciences</i>	5		2	A:1	150
13	C001195 Statistics and Data Processing <i>Ilse De Looze -- 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>Diederik Depla -- 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>Dimitri Van Neck -- 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>Sven De Rijcke -- Department of Physics and Astronomy</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>Christophe Detavernier -- Department of Solid State Sciences</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	C004650 Dynamical Systems in Nature [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>Steven Caluwaerts -- Department of Physics and Astronomy</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>Bartel Van Waeyenberge -- Department of Solid State Sciences</i>	3			A:J	75
6	C004667 Introduction to Machine Learning [en] <i>Yvan Saeys -- Department of Mathematics, Computer Science and Statistics</i>	6			A:1	180

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

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 2027-2028	f: annually, from 2028-2029	i: annually, from 2029-2030
b: tri-annually	d: bi-annually, from 2027-2028	g: bi-annually, from 2028-2029	j: bi-annually, from 2029-2030
	e: tri-annually, from 2027-2028	h: tri-annually, from 2028-2029	k: tri-annually, from 2029-2030