

Faculty of Sciences

Bachelor of Science in Physics and Astronomy

Language of instruction: Dutch

Programme version 9

1 General Courses 162 credits

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1 | C000857 Mechanics <i>Matthieu Boone -- Department of Physics and Astronomy</i> | 6 | | 1 | A:1 | 180 |
| 2 | C002022 Waves and Optics | 6 | | 1 | | 180 |
| 3 | C000537 Electricity and Magnetism | 6 | | 1 | | 180 |
| 4 | C003133 Introduction to Theoretical Physics <i>Dimitri Van Neck -- Department of Physics and Astronomy</i> | 6 | | 1 | A:2 | 180 |
| 5 | C000973 Physics Laboratory 1 | 6 | | 1 | | 180 |
| 6 | C003574 Analysis I <i>Jasson Vindas Diaz -- Department of Mathematics: Analysis, Logic and Discrete Mathematics</i> | 6 | | 1 | | 180 |
| 7 | C003620 Analysis II | 6 | | 1 | | 180 |
| 8 | C003554 Linear Algebra and Geometry I <i>Anneleen De Schepper -- Department of Mathematics: Algebra and Geometry</i> | 6 | | 1 | | 180 |
| 9 | C003717 Programming <i>Peter Dawyndt -- Department of Applied Mathematics and Computer Science</i> | 6 | | 1 | A:1 | 180 |
| 10 | C001390 Chemistry <i>Kristof Van Hecke -- Department of Chemistry</i> | 6 | | 1 | | 180 |
| 11 | C002240 Quantum Mechanics 1 <i>Jan Ryckebusch -- Department of Physics and Astronomy</i> | 6 | | 2 | A:1 | 180 |
| 12 | C000104 Thermal Physics <i>Natalie Jachowicz -- Department of Physics and Astronomy</i> | 6 | | 2 | A:2 | 180 |
| 13 | C002133 Electromagnetism <i>Jutho Haegeman -- Department of Physics and Astronomy</i> | 6 | | 2 | A:2 | 180 |
| 14 | C001369 Material Physics <i>Diederik Depla -- Department of Solid State Sciences</i> | 6 | | 2 | A:2 | 180 |
| 15 | C000983 Physics Laboratory 2 <i>Bartel Van Waeyenberge -- Department of Solid State Sciences</i> | 6 | | 2 | A:2 | 180 |
| 16 | C001195 Statistics and Data Processing <i>Arjen van der Wel -- Department of Physics and Astronomy</i> | 6 | | 2 | A:1 | 180 |
| 17 | C001887 Mathematical Methods in Physics <i>Nele Vandersickel -- Department of Physics and Astronomy</i> | 6 | | 2 | A:1 | 180 |
| 18 | C003016 Introduction to Astronomy <i>Sven De Rijcke -- Department of Physics and Astronomy</i> | 6 | | 2 | A:2 | 180 |
| 19 | C002994 Extragalactic Astronomy <i>Maarten Baes -- Department of Physics and Astronomy</i> | 6 | | 2 | A:2 | 180 |
| 20 | C002245 Quantum Mechanics 2 <i>Dimitri Van Neck -- Department of Physics and Astronomy</i> | 6 | | 3 | A:1 | 180 |
| 21 | C002462 Theory of Relativity <i>Karel Van Acoleyen -- Department of Physics and Astronomy</i> | 6 | | 3 | A:1 | 180 |
| 22 | C002461 Statistical Physics 1 <i>Jan Ryckebusch -- Department of Physics and Astronomy</i> | 6 | | 3 | A:1 | 180 |

| | | | | | | |
|----|---------|---|---|---|-----|-----|
| 23 | C000919 | Introduction to Atomic and Molecular Physics <i>Jonas Joos -- Department of Solid State Sciences</i> | 6 | 3 | A:2 | 180 |
| 24 | C001063 | Solid State Physics <i>Christophe Detavernier -- Department of Solid State Sciences</i> | 6 | 3 | A:2 | 180 |
| 25 | C002100 | Subatomic Physics 1 [en] <i>Didar Dobur -- Department of Physics and Astronomy</i> | 6 | 3 | A:2 | 180 |
| 26 | C003005 | Physics of Galaxies <i>Sven De Rijcke -- Department of Physics and Astronomy</i> | 6 | 3 | A:1 | 165 |
| 27 | C002351 | Bachelorproject <i>Christophe Detavernier -- Department of Solid State Sciences</i> | 6 | 3 | A:2 | 180 |

2 Elective Courses

18 credits

Subscribe to 1 module 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

18 credits

Subscribe to 18 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

Subscribe to no more than 18 credit units from the following list, distributed over the first standard learning path as follows:

- no more than 6 credit units in year 2,
- no more than 12 credit units in year 3.

| Nr | Course | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1 | C000925 Electronics <i>Dirk Poelman -- Department of Solid State Sciences</i> | 6 | | 2 | A:2 | 180 |
| 2 | C000838 Thin Films and Surface Physics <i>Diederik Depla -- Department of Solid State Sciences</i> | 6 | | 3 | A:1 | 180 |
| 3 | C003938 Introductory Biophysics | 6 | | 3 | | 180 |

2.1.2 Elective Courses UGent

Subscribe to no more than 18 credit units from the bachelor's programmes offered by UGent. The course units are preferably chosen from the course units offered by the Faculty of Sciences and / or the Faculty of Engineering and Architecture. The course 'Powerful Learning Environments' from the educational track can also be chosen here. At most 6 credits can be chosen from course units offered by other faculties. The course units are distributed over the first standard learning path as follows:

- 6 credit units in year 2,
- no more than 12 credit units in year 3.

2.2 Educational Track

18 credits

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

2.2.1 Elective Courses UGent

Subscribe to 3 credit units from the module 'Physics and Astronomy' or from the bachelor's programmes offered by Ghent University (preferably offered by the Faculty of Sciences and / or the Faculty of Engineering and Architecture).

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 2023-2024 | f: annually, from 2024-2025 | i: annually, from 2025-2026 |
| b: tri-annually | d: bi-annually, from 2023-2024 | g: bi-annually, from 2024-2025 | j: bi-annually, from 2025-2026 |
| | e: tri-annually, from 2023-2024 | h: tri-annually, from 2024-2025 | k: tri-annually, from 2025-2026 |