

Faculty of Sciences, Faculty of Psychology and Educational Sciences

Master of Science in Teaching in Science and Technology -- Physics and Astronomy

Language of instruction: Dutch

Programme version 7

1 Domain Component

51 credits

For courses without indication of the standard learning path, the student can choose whether to take the course in the first or second year, depending on the rest of the curriculum.

1.1 General Courses

28 credits

Subscribe to 28 credit units from the following list, with 24 credit units with reference a.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C004503 Solid State and Nano Physics [en] <i>Christophe Detavernier -- Department of Solid State Sciences</i>	6	a		A:1	180
2	C004504 Computational Physics [en] <i>Toon Verstraelen -- Department of Physics and Astronomy</i>	6	a		A:1	180
3	C004502 Subatomic Physics [en] <i>Didar Dobur -- Department of Physics and Astronomy</i>	6	a		A:1	180
4	C004505 Theoretical and Numerical Astrophysics [en] <i>Maarten Baes -- Department of Physics and Astronomy</i>	6	a		A:1	180
5	C004506 Quantum Field Theory [en] <i>Thomas Mertens -- Department of Physics and Astronomy</i>	6	a		A:1	180
6	C004451 General Relativity [en] <i>Archisman Ghosh -- Department of Physics and Astronomy</i>	6	a		A:1	180
7	C004519 Professional Skills for Scientists [en, nl] <i>Philippe Smet -- Department of Solid State Sciences</i>	4			A:J	120

1.2 Elective Courses

23 credits

Subscribe to 23 credit units from no less than 1 and no more than 3 modules from the following list. Subject to approval by the faculty.

1.2.1 Elective Course List Physics & Astronomy

Subscribe to no less than 17 credit units from the following list.

1.2.2 Elective Course List Society & Sustainability

Subscribe to no more than 6 credit units from the following list.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C004522 Project Work <i>Sven De Rijcke -- Department of Physics and Astronomy</i>	4			B:J	120
2	C004523 Materials for Energy Applications [en] <i>Christophe Detavernier -- Department of Solid State Sciences</i>	6			A:1	180
3	E039060 Sustainable Energy and Rational Use of Energy [en] <i>Filip Strubbe -- Department of Electronics and Information Systems</i>	4			A:2	120
4	E065460 Rational Use of Materials [en] <i>Tom Depover -- Department of Materials, Textiles and Chemical Engineering</i>	5			A:1	150
5	E076320 The Information Society and ICT <i>Erik Mannens -- Department of Electronics and Information Systems</i>	3			A:2	90
6	E078010 Technology and Environment [en] <i>Luc Martens -- Department of Information Technology</i>	3			A:1	90

1.2.3 Elective Courses UGent and other Universities

Subscribe to courses for no more than 6 credit units to be chosen from the courses of faculty of Sciences, faculty of Engineering and

2 Teaching Component**39 credits**

For courses without indication of the standard learning path, the student can choose whether to take the course in the first or second year, depending on the rest of his/her curriculum. Students must complete the corresponding teaching methodology course before entering into an internship, or at least take the teaching methodology course simultaneously.

2.1 Programme Pathway Theoretical Education**12 credits**

Nr	Course	CRDT	Ref	MT1	Session	Study
1	H002478 The Student: Development and Motivation <i>Wim Beyers -- Department of Developmental, Personality and Social Psychology</i>	6			A:1	180
2	H002477 The Teacher within Class, School and Society <i>Melissa Tuytens -- Department of Educational Studies</i>	6			A:2	180

2.2 Programme Pathway Teaching Methodology**9 credits**

Subscribe to 9 credit units from the following list.

- Did you follow Teaching Methodology: Physics in your bachelor programme or preparatory course? Choose a different Teaching Methodology Course in the master in teaching.
- Have you not yet followed Teaching Methodology: Physics in your bachelor programme or preparatory course? You must follow Teaching Methodology: Physics in the master in teaching.

If you are able to demonstrate that you have acquired at least 30 academic credits in another specific domain (60 credits if it concerns a language), you can submit a request to educatievemaster@ugent.be to take the corresponding teaching methodology course. When you are allowed to do so, then you must take the corresponding internship in the Programme Pathway Internship.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	H002580 Teaching Methodology: Physics <i>Stefaan Cottenier -- Department of Electromechanical, Systems and Metal Engineering</i>	9				270
2	H002608 Teaching Methodology: STEM Focus STEM <i>Katrien Strubbe -- Department of Chemistry</i>	9			J:J	270
3	H002605 Teaching Methodology: STEM Focus Mathematics <i>Hendrik Van Maldeghem -- Department of Mathematics, Computer Science and Statistics</i>	9			J:J	270

2.3 Programme Pathway Internship**18 credits**

Subscribe to 18 credit units from the following list, with

- 9 credit units from the courses with reference a,
- 9 credit units from the courses with reference b.

The course with reference b corresponds with the chosen Teaching Methodology course in the Programme Pathway Teaching Methodology.

Have you received permission to take a different teaching methodology course in the Programme Pathway Teaching Methodology, please contact educatievemaster@ugent.be to have the corresponding internship added to your curriculum.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	H002581 Internship Physics <i>Philippe Smet -- Department of Solid State Sciences</i>	9			J:J	270
2	H002609 Internship STEM Focus STEM <i>Katrien Strubbe -- Department of Chemistry</i>	9			J:J	270
3	H002600 Internship STEM Focus Mathematics <i>Hendrik Van Maldeghem -- Department of Mathematics, Computer Science and Statistics</i>	9			J:J	270

3 Master's Dissertation**30 credits**

Nr	Course	CRDT	Ref	MT1	Session	Study
1	C004107 Master's Dissertation <i>Philippe Smet -- Department of Solid State Sciences</i>	30		2	A:J	900

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