GHENT UNIVERSITY

Study Programme

Academic year 2024-2025

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 6

1 Domain Component — 54 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] *Christophe Detavernier -- Department of Solid State Sciences*	6	a		A:1	180
2	C004504	Computational Physics [en] *Toon Verstraelen -- Department of Physics and Astronomy*	6	a		A:1	180
3	C004502	Subatomic Physics [en] *Ben Page -- Department of Physics and Astronomy*	6	a		A:1	180
4	C004505	Theoretical and Numerical Astrophysics [en] *Maarten Baes -- Department of Physics and Astronomy*	6	a		A:1	180
5	C004506	Quantum Field Theory [en] *Thomas Mertens -- Department of Physics and Astronomy*	6	a		A:1	180
6	C004451	General Relativity [en] *Archisman Ghosh -- Department of Physics and Astronomy*	6	a		A:1	180
7	C004519	Professional Skills for Scientists [en, nl] *Philippe Smet -- Department of Solid State Sciences*	4			(A:J)[c]	120

1.2 Elective Courses — 26 credits

Subscribe to 26 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 18 credit units from the elective course lists 2.1 through 2.5 from the MSc in Physics & Astronomy (English taught programme).
Students can also take the 2 remaining general courses.
Please note: some elective courses are offered every two years. Keep this in mind when choosing your elective courses

1.2.2 Elective Course List Society & Sustainability

Subscribe to no more than 8 credit units from the following list.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	C004522	Project Work *Christophe Detavernier -- Department of Solid State Sciences*	4			B:J	120
2	C004523	Materials for Energy Applications [en] *Christophe Detavernier -- Department of Solid State Sciences*	6			(A:1)[c]	180
3	E039060	Sustainable Energy and Rational Use of Energy [en] *Jeroen Beeckman -- Department of Electronics and Information Systems*	4			A:2	120
4	E065460	Rational Use of Materials [en] *Tom Depover -- Department of Materials, Textiles and Chemical Engineering*	5			A:1	150
5	E076320	The Information Society and ICT *Erik Mannens -- Department of Electronics and Information Systems*	3			A:2	90
6	E078010	Technology and Environment [en] *Luc Martens -- Department of Information Technology*	3			A:1	90

1.2.3 Elective Courses UGent and other Universities

Subscribe to courses for no more than 8 credit units to be chosen from the courses of faculty of Sciences, faculty of Engineering and Architecture and/or from the study programmes of Erasmus+ partner universities. No more than 8 credits units can be chosen from bachelor programmes.

2 Teaching Component 36 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	H002197	The Teacher within School and Society *Melissa Tuytens -- Department of Educational Studies*	4			A:1	120
2	H002196	Classroom Management and Reflection *Tijs Rotsaert -- Department of Educational Studies*	4			A:2	120
3	H002198	Psychology of Adolescence *Wim Beyers -- Department of Developmental, Personality and Social Psychology*	4			A:1	120

2.2 Programme Pathway Teaching Methodology 6 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	H002224	Teaching Methodology Physics *Stefaan Cottenier -- Department of Electromechanical, Systems and Metal Engineering*	6			C:J	180

2.3 Programme Pathway Internship 12 credits

Subscribe to 12 credit units from the following list, with
- 4 credit units from the courses with reference a, if no additional Teaching Methodology Course is taken in Module 2 of the Elective Courses
- 4 credit units from the courses with reference b, if an additional Teaching Methodology Course is taken in Module 2 of the Elective Courses

Nr	Course		CRDT	Ref	MT1	Session	Study
1	H002299	Internship A: STEM *Katrien Strubbe -- Department of Chemistry*	4			A:J	100
2	H002316	Internship B: Physics *Philippe Smet -- Department of Solid State Sciences*	4			A:J	100
3	H002335	Internship C: Physics *Philippe Smet -- Department of Solid State Sciences*	4	a		A:J	100
4	H002336	Internship C: Mathematics *Hendrik Van Maldeghem -- Department of Mathematics, Computer Science and Statistics*	4	b		A:J	100

2.4 Elective Courses 6 credits

Subscribe to 6 credit units from one or different modules from the following list. Subject to approval by the faculty.

2.4.1 Module 1: List of Elective Courses

The courses with reference b can only be chosen if the course with reference a has been passed.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	H001608	Movement and Sports: Now and Later *Veerle Segers -- Department of Movement and Sports Sciences*	4	UKV		A:2	120
2	H001838	Culture, Media and Education *Kris Rutten -- Department of Educational Studies*	4			A:2	120
3	H002128	Methods to Facilitate Socratic Group Discussions in the Educational Context *Veerle Provoost -- Department of Philosophy and Moral Sciences*	4			A:2	120
4	H002213	Motivational Psychology *Joachim Waterschoot -- Department of Developmental, Personality and Social Psychology*	5			A:1	150
5	H002344	Linguistic Proficiency in Content and Language Integrated Learning: Dutch *Bart Deygers -- Department of Translation, Interpreting and Communication*	3	b	2	A:2	90
6	H002247	Linguistic Proficiency in Content and Language Integrated Learning: English [en] *June Eyckmans -- Department of Translation, Interpreting and Communication*	3	b	2	A:2	90
7	H002248	Linguistic Proficiency in Content and Language Integrated Learning: French [fr] *Pascale Hadermann -- Department of Linguistics*	3	b	2	A:2	90

8	H002249	Linguistic Proficiency in Content and Language Integrated Learning: German [de] *Gunther Martens -- Department of Literary Studies*	3	b	2	A:2	90
9	H002246	Theory and Practice of Content and Language Integrated Learning *Ulrike Vogl -- Department of Linguistics*	3	a	1	A:1	90
10	H002283	Teaching Methodology: General Subjects for Technical and Vocational Education, including Internship *Katrien Strubbe -- Department of Chemistry*	6			A:2	160

2.4.2 Module 2: Additional Course Teaching Methodology

Taking an additional Teaching Methodology Course implies taking the corresponding Internship in the Programme Pathway Internship. Students who are able to demonstrate that they have acquired at least 30 academic credits in another specific domain (60 credits if it concerns a language), can submit a request to the Curriculum Manager for the Master of Education to take the corresponding teaching methodology course. If the Curriculum Manager agrees, the Programme Pathway Internship needs to be revised allowing a student to follow an "Internship C" in this additional teaching methodology.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	H002226	Teaching Methodology: Mathematics I *Hendrik Van Maldeghem -- Department of Mathematics, Computer Science and Statistics*	6			A:J	180

2.4.3 Module 3: Additional Internship

Nr	Course		CRDT	Ref	MT1	Session	Study
1	H002332	Short Additional Internship *Katrien Strubbe -- Department of Chemistry*	3			A:J	80
2	H002333	Extended Additonal Internship *Katrien Strubbe -- Department of Chemistry*	6			A:J	160

2.4.4 Module 4: an Elective Course related to Education

Subscribe to a course of no less than 6 credit units, related to education, and lectured at a university belonging to the Flemish Community (see also: Enlight Elective Courses), subject to approval by the faculty.

3 Master's Dissertation 30 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	C004107	Master's Dissertation *N. N.*	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 cours name, using the following ISO codes:

bg: Bulgarian	de: German	es: Spanish	ja: Japanese	pl: Polish	sh: Kroatian/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 in 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