GHENT UNIVERSITY

Study Programme

Academic year 2025-2026

Faculty of Engineering and Architecture

Bridging Programme Master of Science in Engineering Physics

Language of instruction: English

Programme version 4

1 General Courses

1.1 Intake: Master of Science in Electrical Engineering, European Master of Science in Photonics, and Master of Science in Photonics Engineering — 78 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E001810	Mathematical Tools in Engineering: Linear Algebra [nl] *Srdan Lazendic -- Department of Electronics and Information Systems*	3	BRUG	1	A:2	90
2	E001820	Mathematical Tools in Engineering: Complex Analysis [nl] *Srdan Lazendic -- Department of Electronics and Information Systems*	3	BRUG	1	A:1	90
3	E020310	Physics III [nl] *Louis Vanduyfhuys -- Department of Applied Physics*	6	BRUG	1	A:2	180
4	E022110	Electromagnetism I [nl] *Dries Vande Ginste -- Department of Information Technology*	6	BRUG	1	A:1	180
5	E023010	Quantum Mechanics I [nl] *Louis Vanduyfhuys -- Department of Applied Physics*	6	BRUG	1	A:2	180
6	E024610	Solid-state Physics and Semiconductors I [nl] *Henk Vrielinck -- Department of Solid State Sciences*	6	BRUG	1	A:1	180
7	E040050	Theoretical Mechanics I [nl] *Dimitri Van Neck -- Department of Physics and Astronomy*	6	BRUG	1	A:1	180
8	E024641	Physics of Semiconductor Devices *Benoit Bakeroot -- Department of Electronics and Information Systems*	6		1	B:2	180
9	E023060	Quantum Mechanics II [nl] *Veronique Van Speybroeck -- Department of Applied Physics*	6	BRUG	2	A:1	180
10	E026221	Plasma Physics *Geert Verdoolaege -- Department of Applied Physics*	6		2	A:1	180
11	E002683	Mathematical Techniques for Engineers: Advanced Topics *Sigiswald Barbier -- Department of Electronics and Information Systems*	6		2	A:1	180
12	E025010	Atomic and Molecular Physics *Veronique Van Speybroeck -- Department of Applied Physics*	6		2	A:1	180
13	E025600	Nuclear Physics: Principles and Applications *Matthieu Boone -- Department of Physics and Astronomy*	6		2	A:2	180
14	E029040	Physical Chemistry *Iwan Moreels -- Department of Chemistry*	6		2	B:2	180

1.2 Intake: Master of Science in Physics and Master of Science in Physics and Astronomy — 72 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E002683	Mathematical Techniques for Engineers: Advanced Topics *Sigiswald Barbier -- Department of Electronics and Information Systems*	6		1	A:1	180
2	E007120	Modelling and Control of Dynamic Systems [nl] *Mia Loccufier -- Department of Electromechanical, Systems and Metal Engineering*	6	BRUG	1	A:2	180
3	E021110	Materials and Fields [nl] *Jeroen Beeckman -- Department of Electronics and Information Systems*	6	BRUG	1	A:1	180
4	E022110	Electromagnetism I [nl] *Dries Vande Ginste -- Department of Information Technology*	6	BRUG	1	A:1	180

5	E022700	Computational Solutions of Wave Problems *Dick Botteldooren -- Department of Information Technology*	6		1	A:1	180
6	E029040	Physical Chemistry *Iwan Moreels -- Department of Chemistry*	6		1	B:2	180
7	E030610	Photonics [nl] *Günther Roelkens -- Department of Information Technology*	6	BRUG	1	A:2	180
8	E032010	Electronic Systems and Instrumentation [nl] *Jan Doutreloigne -- Department of Electronics and Information Systems*	6	BRUG	1	A:2	180
9	E045120	Transport Phenomena [nl] *Tom De Mulder -- Department of Civil Engineering*	6	BRUG	1	B:2	180
10	E090320	Electrical Circuits and Networks [nl] *Inge Nys -- Department of Electronics and Information Systems*	6	BRUG	1	A:1	180
11	E026221	Plasma Physics *Geert Verdoolaege -- Department of Applied Physics*	6		2	A:1	180
12	E024641	Physics of Semiconductor Devices *Benoit Bakeroot -- Department of Electronics and Information Systems*	6		2	B:2	180

2 Elective Courses

Subscribe to 18 credit units (intake module 1.1) or 24 credits units (intake module 1.2) from the list Elective Courses Master of Engineering Physics in the Master of Science in Engineering Physics programme. Subject to approval by the faculty.

3 Master's Dissertation 24 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E091103	Master's Dissertation	24		2	B:J	720

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 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