GHENT UNIVERSITY

Study Programme

Academic year 2025-2026

Programme jointly offered by Ghent University,Vrije Universiteit Brussel

Bridging Programme Master of Science in Photonics Engineering

Language of instruction: English

Programme version 2

1 General Courses 70 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E001161	Mathematic Models *Karel Van Acoleyen -- Department of Electronics and Information Systems*	6	BRUG	1	A:1	180
2	E900039	Applied Electromagnetism [nl] *Dries Vande Ginste -- Department of Information Technology*	6	BRUG	1	A:1	180
3	E024800	Optical Materials *Jeroen Beeckman -- Department of Electronics and Information Systems*	6		1	A:1	180
4	E030660	Lasers *Geert Morthier -- Department of Information Technology*	4		1	A:1	120
5	E002640	Mathematics in Photonics *Peter Bienstman -- Department of Information Technology*	4		1	A:1	120
6	E030721	Laboratories in Photonics Research *Alberto Curto -- Department of Information Technology*	6		1	A:2	180
7	E007120	Modelling and Control of Dynamic Systems [nl] *Mia Loccufier -- Department of Electromechanical, Systems and Metal Engineering*	6	BRUG	1	A:2	180
8	E030610	Photonics [nl] *Günther Roelkens -- Department of Information Technology*	6	BRUG	1	A:2	180
9	E012420	Optical Communication Systems *Geert Morthier -- Department of Information Technology*	6		1	A:2	180
10	E008446	Sensors, Actuators and Electronic Microsystems *Herbert De Smet -- Department of Electronics and Information Systems*	6		1	A:2	180
11	E031521	Physics of Semiconductor Technologies and Devices *Geert Van Steenberge -- Department of Electronics and Information Systems*	4		1	A:2	120
12	E030740	Recent Trends in Photonics *Wim Bogaerts -- Department of Information Technology*	4		2	A:1	120
13	E030761	Microphotonics *Dries Van Thourhout -- Department of Information Technology*	6		2	A:1	180

2 Elective Courses 20 credits

Subscribe to 20 credit units from 2 modules from the following list. Subject to approval by the faculty.

2.1 Advanced Courses Photonics 12 credits

Subscribe to 12 credit units from the following list. Subject to approval by the faculty.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E030961	Design of Refractive and Diffractive Optical Imaging Systems *Michael Vervaeke -- Vrije Universiteit Brussel*	4			A:1	120
2	E027300	Optical Spectroscopy of Materials	4				120
3	E032411	Display Technology	4				120
4	E030920	Optical Sensors *Thomas Geernaert -- Vrije Universiteit Brussel*	4			A:1	120
5	E900132	Photovoltaic Energy Conversion	4				120
6	E030630	High Speed Photonic Components	4				120

7	E030930	Biophotonics *Nicolas Le Thomas -- Department of Information Technology*	4		A:1	120
8	E030881	Optical Design of Non-Imaging Systems with Ray-tracing Software *Wendy Meulebroeck -- Vrije Universiteit Brussel*	4		A:1	120
9	E030890	Technological Processes for Photonics and Electronics: Laboratory *Günther Roelkens -- Department of Information Technology*	4		A:J	120
10	E023930	Quantum Optics *Guy Van Der Sande -- Vrije Universiteit Brussel*	4		A:2	120
11	E023940	Non-linear Optics *Bart Kuyken -- Department of Information Technology*	4		A:1	120
12	E030782	Micro- and Nanophotonic Semiconductor Devices *Dries Van Thourhout -- Department of Information Technology*	4		A:2	120
13	E901176	Introduction to Quantum Physics for Electrical Engineering *Guy Van Der Sande -- Vrije Universiteit Brussel*	4		A:1	120
14	F000892	Innovation Management *Katrien Verleye -- Department of Marketing, Innovation and Organisation*	3		A:2	90
15	E030730	Lighting Technology *Lien Smeesters -- Vrije Universiteit Brussel*	4		A:2	120
16	E030710	Research in Photonics *Yanlu Li -- Department of Information Technology*	6		A:1, B:2	150
17	E099221	Short Internship in Photonics *Geert Morthier -- Department of Information Technology*	5		A:J, B:1	150
18	E099232	Long Internship in Photonics *Jeroen Beeckman -- Department of Electronics and Information Systems*	10		A:J, B:1	300

2.2 Elective Courses Ghent University/VUB — 8 credits

Subscribe to 8 credit units from the programmes of the Faculty of Engineering and Architecture (Ghent University) or the Faculty of Engineering (VUB). Subject to approval by the faculty.

3 Master's Dissertation — 30 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E091106	Master's Dissertation	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 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