

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 <b>Mathematic Models</b> <i>Karel Van Acoleyen -- Department of Electronics and Information Systems</i>	6	BRUG	1	A:1	180
2	E900039 <b>Applied Electromagnetism [nl]</b> <i>Dries Vande Ginste -- Department of Information Technology</i>	6	BRUG	1	A:1	180
3	E024800 <b>Optical Materials</b> <i>Jeroen Beeckman -- Department of Electronics and Information Systems</i>	6		1	A:1	180
4	E030660 <b>Lasers</b> <i>Geert Morthier -- Department of Information Technology</i>	4		1	A:1	120
5	E002640 <b>Mathematics in Photonics</b> <i>Peter Bienstman -- Department of Information Technology</i>	4		1	A:1	120
6	E030721 <b>Laboratories in Photonics Research</b> <i>Alberto Curto -- Department of Information Technology</i>	6		1	A:2	180
7	E007120 <b>Modelling and Control of Dynamic Systems [nl]</b> <i>Mia Loccupier -- Department of Electromechanical, Systems and Metal Engineering</i>	6	BRUG	1	A:2	180
8	E030610 <b>Photonics [nl]</b> <i>Günther Roelkens -- Department of Information Technology</i>	6	BRUG	1	A:2	180
9	E012420 <b>Optical Communication Systems</b> <i>Geert Morthier -- Department of Information Technology</i>	6		1	A:2	180
10	E008446 <b>Sensors, Actuators and Electronic Microsystems</b> <i>Herbert De Smet -- Department of Electronics and Information Systems</i>	6		1	A:2	180
11	E031521 <b>Physics of Semiconductor Technologies and Devices</b> <i>Geert Van Steenberge -- Department of Electronics and Information Systems</i>	4		1	A:2	120
12	E030740 <b>Recent Trends in Photonics</b> <i>Wim Bogaerts -- Department of Information Technology</i>	4		2	A:1	120
13	E030761 <b>Microphotonics</b> <i>Dries Van Thourhout -- Department of Information Technology</i>	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 <b>Design of Refractive and Diffractive Optical Imaging Systems</b> <i>Michael Vervaeke -- Vrije Universiteit Brussel</i>	4			A:1	120
2	E027300 <b>Optical Spectroscopy of Materials</b>	4				120
3	E032411 <b>Display Technology</b>	4				120
4	E030920 <b>Optical Sensors</b> <i>Thomas Geernaert -- Vrije Universiteit Brussel</i>	4			A:2	120
5	E900132 <b>Photovoltaic Energy Conversion</b>	4				120
6	E030630 <b>High Speed Photonic Components</b>	4				120

7	E030930	Biophotonics <i>Nicolas Le Thomas -- Department of Information Technology</i>	4		A:1	120
8	E030881	Optical Design of Non-Imaging Systems with Ray-tracing Software <i>Wendy Meulebroeck -- Vrije Universiteit Brussel</i>	4		A:1	120
9	E030890	Technological Processes for Photonics and Electronics: Laboratory <i>Günther Roelkens -- Department of Information Technology</i>	4		A:J	120
10	E023930	Quantum Optics <i>Guy Van Der Sande -- Vrije Universiteit Brussel</i>	4		A:2	120
11	E023940	Non-linear Optics <i>Bart Kuyken -- Department of Information Technology</i>	4		A:1	120
12	E030782	Micro- and Nanophotonic Semiconductor Devices <i>Dries Van Thourhout -- Department of Information Technology</i>	4		A:2	120
13	E901176	Introduction to Quantum Physics for Electrical Engineering <i>Guy Van Der Sande -- Vrije Universiteit Brussel</i>	4		A:1	120
14	F000892	Innovation Management <i>Katrien Verleye -- Department of Marketing, Innovation and Organisation</i>	3		A:2	90
15	E030730	Lighting Technology <i>Lien Smeesters -- Vrije Universiteit Brussel</i>	4			120
16	E030710	Research in Photonics <i>Yanlu Li -- Department of Information Technology</i>	6		A:1, B:2	150
17	E099221	Short Internship in Photonics <i>Geert Morthier -- Department of Information Technology</i>	5		A:J, B:1	150
18	E099232	Long Internship in Photonics <i>Jeroen Beeckman -- Department of Electronics and Information Systems</i>	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 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 2027-2028	f: annually, from 2028-2029	i: annually, from 2029-2030
b: tri-annually	d: bi-annually, from 2027-2028	g: bi-annually, from 2028-2029	j: bi-annually, from 2029-2030
	e: tri-annually, from 2027-2028	h: tri-annually, from 2028-2029	k: tri-annually, from 2029-2030