Study Programme

Academic year 2023-2024

Faculty of Engineering and Architecture

Master of Science in Engineering Physics

Language of instruction: English

Programme version 9

1 General Courses — 48 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E026221	Plasma Physics Geert Verdoolaege -- Department of Applied Physics	6		1	A:1	180
2	E002683	Mathematical Techniques for Engineers: Advanced Topics Marcelo Gonçalves De Martino -- Department of Electronics and Information Systems	6		1	A:1	180
3	E025010	Atomic and Molecular Physics Veronique Van Speybroeck -- Department of Applied Physics	6		1	A:1	180
4	E022700	Computational Solutions of Wave Problems Dick Botteldooren -- Department of Information Technology	6		1	A:1	180
5	E025600	Nuclear Physics: Principles and Applications Matthieu Boone -- Department of Physics and Astronomy	6		1	A:2	180
6	E029040	Physical Chemistry Iwan Moreels -- Department of Chemistry	6		1	B:2	180
7	E024641	Physics of Semiconductor Devices Benoit Bakeroot -- Department of Electronics and Information Systems	6		1	B:2	180
8	E025700	Engineering Physics and Industry Filip Beunis -- Department of Electronics and Information Systems	6		1	A:2	180

2 Elective Courses — 48 credits

Subscribe to 48 credit units from 3 modules from the following list. Subject to approval by the faculty.
- 12 credit units in year 1
- 36 credit units in year 2

2.1 Elective Courses Master of Engineering Physics — 30 credits

Subscribe to 30 credit units from the following list. Subject to approval by the faculty.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E006800	Modelling and Engineering of Nanoscale Materials Louis Vanduyfhuys -- Department of Applied Physics	6			A:1	180
2	E006600	Multiscale and Multiphysics Modelling Techniques for Nanoelectronic Devices Dries Vande Ginste -- Department of Information Technology	6			A:2	180
3	E006900	Plasma Technology and Fusion Technology Rino Morent -- Department of Applied Physics	6			A:1	180
4	E006700	Thin Films: Physics and Technology Diederik Depla -- Department of Solid State Sciences	6			A:1	180
5	E006500	Quantum Optics Bart Kuyken -- Department of Information Technology	6			A:1	180
6	E006400	Wave Physics in Living Matter Wout Joseph -- Department of Information Technology	6			A:2	180
7	C004106	Complexity and Criticality Jan Ryckebusch -- Department of Physics and Astronomy	6			A:2	180
8	E006200	Physics of Advanced Electronic and Photonic Devices Filip Strubbe -- Department of Electronics and Information Systems	6			A:1	180

2.2 Elective Social Courses

Subscribe to 6 credit units from the following list. Subject to approval by the faculty.
Students may apply for another elective social course, given a clear motivation and after approval by the faculty (exceptionally, as a rule a course from the list below is followed).

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E099300	Industry Internship Engineering and Architecture [en, nl] Patrick Segers -- Department of Electronics and Information Systems	6			A:J	180
2	E037810	Safety of Electrical and Mechanical Installations [nl] Jos Knockaert -- Department of Electromechanical, Systems and Metal Engineering	3			A:2	90
3	E039060	Sustainable Energy and Rational Use of Energy Jeroen Beeckman -- Department of Electronics and Information Systems	4			A:2	120
4	K001339	Sustainability Thinking [nl] Thomas Block -- Department of Political Sciences	5	UKV		A:J	150
5	E078310	Sustainable Use of Materials: Metals [nl] Kim Verbeken -- Department of Materials, Textiles and Chemical Engineering	3			A:1	90
6	E078320	Sustainable Use of Materials: Plastics and Derived Materials [nl] Lode Daelemans -- Department of Materials, Textiles and Chemical Engineering	3			A:2	90
7	E078010	Technology and Environment Luc Martens -- Department of Information Technology	3			A:1	90
8	E078752	Water and Air Quality Management Joris Thybaut -- Department of Materials, Textiles and Chemical Engineering	4			A:2	120
9	E092100	Biosystems [nl] Pascal Verdonck -- Department of Electronics and Information Systems	3			A:1	90
10	E075310	Ethics, Engineering and Society [nl] Seppe Segers -- Department of Philosophy and Moral Sciences	3			A:2	90
11	E075060	Philosophy and Science [nl] Maarten Van Dyck -- Department of Philosophy and Moral Sciences	3			A:1	90
12	E076320	The Information Society and ICT [nl] Erik Mannens -- Department of Electronics and Information Systems	3			A:1	90
13	A001900	Introduction to Psychology [nl] Wim Notebaert -- Department of Experimental Psychology	3			A:1	90
14	H001977	Coaching and Diversity [nl] Elisabeth De Schauwer -- Department of Special Education	3	UKV		A:J	90
15	A005503	Context and Nuance. A Critical Reflection on Current Topics [nl] Stef Craps -- Department of Literary Studies	6	UKV		A:1	180
16	E076450	Basic Entrepreneurship [nl] Yannick Dillen -- Department of Marketing, Innovation and Organisation	3	UKV		A:1	90
17	E076431	Introduction to Entrepreneurship Petra Andries -- Department of Marketing, Innovation and Organisation	3			A:1	90
18	E076460	Dare to Venture Johan Verrue -- Department of Marketing, Innovation and Organisation	4			A:2	120
19	E076471	Dare to Start Frank Gielen -- Department of Information Technology	3			A:2	90
20	E076621	Principles of Law and Construction Law [nl] Jelle Laverge -- Department of Architecture and Urban Planning	3			A:1	90
21	E076520	Commercial Law [nl] Diederik Bruloot -- Department of Interdisciplinary Study of Law, Private Law and Business Law	3			A:1	90
22	E076951	Engineering Economy Sofie Verbrugge -- Department of Information Technology	6			A:1	180
23	H002169	Powerful Learning Environments [nl] Bram De Wever -- Department of Educational Studies	6			A:1	180
24	H002196	Classroom Management and Reflection [nl] Melissa Tuytens -- Department of Educational Studies	4			A:2	120
25	H002197	The Teacher within School and Society [nl] Melissa Tuytens -- Department of Educational Studies	4			A:1	120
26	H002198	Psychology of Adolescence [nl] Wim Beyers -- Department of Developmental, Personality and Social Psychology	4			A:1	120

Nr	Course			CRDT	Ref	MT1	Session	Study
27	F000083	Macroeconomics [nl]		6			A:1	180
		Freddy Heylen -- Department of Economics						
28	H001010	Introduction Industrial Psychology [nl]		5			Z:1	150
		Bart Wille -- Department of Developmental, Personality and Social Psychology						
29	F000551	Business Skills		4			C:2	120
		Mieke Audenaert -- Department of Marketing, Innovation and Organisation						
30	A003001	Academic English		3	UKV		B:1, A:2	90
		Geert Jacobs -- Department of Linguistics						
31	E075800	Communication [nl]		3			A:1	90
		Leen Pollefliet -- Department of Information Technology						

2.3 Elective Courses Research Internship or Ghent University   12 credits

Subscribe to 12 credit units from no less than 1 and no more than 2 modules from the following list. Subject to approval by the faculty.

2.3.1 Elective Research Internship

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E099400	Research Internship	6			A:J	180
		Patrick Segers -- Department of Electronics and Information Systems					

2.3.2 Elective Courses Ghent University

Subscribe to no more than 12 credit units from the master's programmes offered by a bèta faculty of Ghent University, or from the Ghent University Elective Courses. Subject to approval by the faculty.
Ghent University Elective Courses

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 2024-2025	f: annually, from 2025-2026	i: annually, from 2026-2027
b: tri-annually	d: bi-annually, from 2024-2025	g: bi-annually, from 2025-2026	j: bi-annually, from 2026-2027
	e: tri-annually, from 2024-2025	h: tri-annually, from 2025-2026	k: tri-annually, from 2026-2027