

Faculty of Engineering and Architecture
Master of Science in Engineering Physics

Language of instruction: English
Programme version 12

1 General Courses 48 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E026221 Plasma Physics <i>Geert Verdoolaege -- Department of Applied Physics</i>	6		1	A:1	180
2	E002683 Mathematical Techniques for Engineers: Advanced Topics <i>Sigiswald Barbier -- Department of Electronics and Information Systems</i>	6		1	A:1	180
3	E025010 Atomic and Molecular Physics <i>Veronique Van Speybroeck -- Department of Applied Physics</i>	6		1	A:1	180
4	E022700 Computational Solutions of Wave Problems <i>Dick Botteldooren -- Department of Information Technology</i>	6		1	A:1	180
5	E025600 Nuclear Physics: Principles and Applications <i>Matthieu Boone -- Department of Physics and Astronomy</i>	6		1	A:2	180
6	E029040 Physical Chemistry <i>Iwan Moreels -- Department of Chemistry</i>	6		1	B:2	180
7	E024641 Physics of Semiconductor Devices <i>Benoit Bakeroort -- Department of Electronics and Information Systems</i>	6		1	B:2	180
8	E025700 Engineering Physics and Industry <i>Filip Beunis -- Department of Electronics and Information Systems</i>	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 <i>Louis Vanduyfhuys -- Department of Applied Physics</i>	6			A:1	180
2	E006600 Multiscale and Multiphysics Modelling Techniques for Nanoelectronic Devices <i>Dries Vande Ginste -- Department of Information Technology</i>	6			A:2	180
3	E006900 Plasma Technology and Fusion Technology <i>Rino Morent -- Department of Applied Physics</i>	6			A:1	180
4	E006700 Thin Films: Physics and Technology <i>Diederik Depla -- Department of Solid State Sciences</i>	6			A:1	180
5	E006500 Quantum Optics <i>Bart Kuyken -- Department of Information Technology</i>	6			A:1	180
6	E006400 Wave Physics in Living Matter <i>Wout Joseph -- Department of Information Technology</i>	6			A:2	180
7	C004106 Complexity and Criticality <i>Jan Ryckebusch -- Department of Physics and Astronomy</i>	6			A:2	180
8	E006200 Physics of Advanced Electronic and Photonic Devices <i>Filip Strubbe -- Department of Electronics and Information Systems</i>	6			A:1	180

2.2 Elective Social Courses

Subscribe to no less than 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] <i>Patrick Segers -- Department of Electronics and Information Systems</i>	6			A:J	180
2	E098010 Integrated Portfolio [en, nl] <i>Hiep Luong -- Department of Telecommunications and Information Processing</i>	6			A:J	180
3	E098010 Integrated Portfolio [en, nl] <i>Hiep Luong -- Department of Telecommunications and Information Processing</i>	3			B:J	90
4	E037810 Safety of Electrical and Mechanical Installations	3				90
5	E039060 Sustainable Energy and Rational Use of Energy <i>Filip Strubbe -- Department of Electronics and Information Systems</i>	4			A:2	120
6	E078310 Sustainable Use of Materials: Metals [nl] <i>Kim Verbeken -- Department of Materials, Textiles and Chemical Engineering</i>	3			A:1	90
7	E078320 Sustainable Use of Materials: Plastics and Derived Materials [nl] <i>Lode Daelemans -- Department of Materials, Textiles and Chemical Engineering</i>	3			A:2	90
8	E078010 Technology and Environment <i>Luc Martens -- Department of Information Technology</i>	3			A:1	90
9	E078752 Water and Air Quality Management <i>Joris Thybaut -- Department of Materials, Textiles and Chemical Engineering</i>	4			A:2	120
10	E092100 Biosystems [nl] <i>Pascal Verdonck -- Department of Electronics and Information Systems</i>	3			A:1	90
11	E075310 Ethics, Engineering and Society [nl] <i>Seppe Segers -- Department of Philosophy and Moral Sciences</i>	3			A:2	90
12	C004009 History and Philosophy of Sciences [nl] <i>Maarten Van Dyck -- Department of Philosophy and Moral Sciences</i>	3			B:2	90
13	E076321 Digital Innovation for People and Society [nl] <i>Erik Mannens -- Department of Electronics and Information Systems</i>	3			A:2	90
14	A001900 Introduction to Psychology	3				90
15	H001977 Coaching and Diversity [nl] <i>Elisabeth De Schauwer -- Department of Educational Sciences</i>	3	UKV		A:J	90
16	A005503 Context and Nuance. A Critical Reflection on Current Topics [nl] <i>Katrijn Maryns -- Department of Translation, Interpreting and Communication</i>	6	UKV		A:1	180
17	F001021 Basic Entrepreneurship [nl] <i>Evy Van Lancker -- Department of Marketing, Innovation and Organisation</i>	3	UKV		A:1	90
18	A005646 Introduction to Business Law [nl] <i>Diederik Bruloot -- Department of Interdisciplinary Study of Law, Private Law and Business Law</i>	3			A:1	90
19	F001022 Dare to Venture <i>Johan Verrue -- Department of Marketing, Innovation and Organisation</i>	4			A:2	120
20	E076471 Dare to Start <i>Wouter Haerick -- Department of Information Technology</i>	3			A:2	90
21	E076621 Principles of Law and Construction Law [nl] <i>Jelle Laverge -- Department of Architecture and Urban Planning</i>	3			A:1	90
22	E076951 Engineering Economy <i>Sofie Verbrugge -- Department of Industrial Systems Engineering and Product Design</i>	6			A:1	180
23	F001020 Introduction to Entrepreneurship <i>Petra Andries -- Department of Marketing, Innovation and Organisation</i>	3			A:1	90
24	H002476 Powerful Learning Environments [nl] <i>Bram De Wever -- Department of Educational Sciences</i>	6			A:1	180
25	H002477 The Teacher within Class, School and Society [nl] <i>Melissa Tuytens -- Department of Educational Sciences</i>	6			A:2	180
26	H002478 The Student: Development and Motivation [nl] <i>Wim Beyers -- Department of General and Applied Psychology</i>	6			A:1	180
27	F000083 Macroeconomics [nl] <i>Freddy Heylen -- Department of Economics</i>	6			A:1	180

28	H002668	Introduction Industrial Psychology [nl] <i>Bart Wille -- Department of General and Applied Psychology</i>	4		A:1	120
29	F000551	Business Skills <i>Mieke Audenaert -- Department of Marketing, Innovation and Organisation</i>	4		C:2	120
30	A003001	Academic English <i>Geert Jacobs -- Department of Linguistics</i>	3	UKV	B:1, A:2	90
31	E037830	Basics of Health and Safety at Work for Engineers [nl] <i>Sofie Van Volsem -- Department of Industrial Systems Engineering and Product Design</i>	3		A:1	90

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 <i>Patrick Segers -- Department of Electronics and Information Systems</i>	6			A:J	180

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 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 2028-2029	f: annually, from 2029-2030	i: annually, from 2030-2031
b: tri-annually	d: bi-annually, from 2028-2029	g: bi-annually, from 2029-2030	j: bi-annually, from 2030-2031
	e: tri-annually, from 2028-2029	h: tri-annually, from 2029-2030	k: tri-annually, from 2030-2031