

Faculty of Engineering and Architecture

Master of Science in Electrical Engineering -- Electronic Circuits and Systems

Language of instruction: English

Programme version 12

1 General Courses 36 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E022230 Antennas and Propagation <i>Hendrik Rogier -- Department of Information Technology</i> Indicative price: € 10	6		1	A:1	180
2	E031251 Design Methodology for FPGAs <i>Dirk Stroobandt -- Department of Electronics and Information Systems</i> Indicative price: € 0	6		1	A:1	180
3	E033021 Electromagnetic-aware High Frequency Design <i>Hendrik Rogier -- Department of Information Technology</i> Indicative price: € 10	6		1	A:1	180
4	E033640 High-speed Electronics <i>Johan Bauwelinck -- Department of Information Technology</i> Indicative price: € 15	6		1	A:2	180
5	E003600 Information Theory <i>Heidi Steendam -- Department of Telecommunications and Information Processing</i> Indicative price: € 13	6		1	B:2	180
6	E012130 Modulation and Detection <i>Nele Noels -- Department of Telecommunications and Information Processing</i> Indicative price: € 10	6		2	B:1	180

2 Courses Related to the Main Subject 48 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E031440 VLSI Technology and Design <i>Jan Doutreloigne -- Department of Electronics and Information Systems</i> Indicative price: € 0	6		1	A:1	180
2	E008446 Sensors, Actuators and Electronic Microsystems <i>Herbert De Smet -- Department of Electronics and Information Systems</i> Indicative price: € 0	6		1	A:2	180
3	E033702 Hardware-design Project <i>Ioulia Tzouvaraki -- Department of Electronics and Information Systems</i> Indicative price: € 0	6		1	A:2	180
4	E031420 Technology of Integrated Circuits and Microsystems <i>Maike Op de Beeck -- Department of Electronics and Information Systems</i> Indicative price: € 24	6		2	B:1	180

2.1 Master's Dissertation

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

3 Elective Courses 36 credits

Subscribe to 36 credit units from no less than 2 and no more than 3 modules from the following list. Subject to approval by the faculty.
Divided as
12 credits in year 1

3.1 Elective Courses Electronic Circuits and Systems

Subscribe to no less than 16 credit units from the following list. Subject to approval by the faculty.

The Research Internship (E099400) cannot be combined with Industry Internship Engineering and Architecture (E099300).

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E033620 High Frequency Systems <i>Johan Bauwelink -- Department of Information Technology</i> Indicative price: € 12	6				180
2	E030900 Design of Microsystems [nl] <i>Jan Doutreloigne -- Department of Electronics and Information Systems</i> Indicative price: € 0	6			A:1	180
3	E033631 Applied High Frequency Design <i>Guy Torfs -- Department of Information Technology</i> Indicative price: € 0	6			A:1	180
4	E019370 Robotics <i>Tony Belpaeme -- Department of Electronics and Information Systems</i> Indicative price: € 435	6			A:1	180
5	E030761 Microphotonics <i>Dries Van Thourhout -- Department of Information Technology</i> Indicative price: € 10	6			A:1	180
6	E003422 Fundamentals of Statistical Sensor Processing <i>Hiep Luong -- Department of Telecommunications and Information Processing</i> Indicative price: € 0	6			A:1	180
7	E030220 Advanced Analog Design <i>Guy Torfs -- Department of Information Technology</i> Indicative price: € 10	6			A:1	180
8	E031341 Digital Building Blocks [nl] <i>Jan Doutreloigne -- Department of Electronics and Information Systems</i> Indicative price: € 50	6			A:2	180
9	E030320 Avionics: Electronics <i>Dries Vande Ginste -- Department of Information Technology</i> Indicative price: € 0	4			A:2	120
10	E022020 Audio Engineering <i>Dick Botteldooren -- Department of Information Technology</i> Indicative price: € 0	4			A:2	120
11	E012420 Optical Communication Systems <i>Geert Morthier -- Department of Information Technology</i> Indicative price: € 100	6			A:2	180
12	E731050 Vermogenselektronica <i>Jos Knockaert -- Department of Electromechanical, Systems and Metal Engineering</i> Indicative price: € 0	3			A:2	90
13	E024641 Physics of Semiconductor Devices <i>Benoit Bakeroort -- Department of Electronics and Information Systems</i> Indicative price: € 10	6			B:2	180
14	E022700 Computational Solutions of Wave Problems <i>Dick Botteldooren -- Department of Information Technology</i> Indicative price: € 500	6			A:1	180
15	E011322 Queueing Analysis and Simulation <i>Sabine Wittevrongel -- Department of Telecommunications and Information Processing</i> Indicative price: € 10	6			A:1	180
16	E012210 Advanced Modulation and Coding <i>Heidi Steendam -- Department of Telecommunications and Information Processing</i> Indicative price: € 0	4			A:2	120
17	E022250 Bioelectromagnetism <i>Wout Joseph -- Department of Information Technology</i> Indicative price: € 0	4			B:2	120
18	E003710 Game Theory and Multiagent Systems <i>Heidi Steendam -- Department of Telecommunications and Information Processing</i> Indicative price: € 0	6			A:1	180

19	E099400	Research Internship <i>Patrick Segers -- Department of Electronics and Information Systems</i> Indicative price: unknown	6	A:J	180
20	E012321	Connected Systems <i>Jeroen Hoebeke -- Department of Information Technology</i> Indicative price: € 30	6	A:2	180

3.2 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> Indicative price: unknown	6			A:J	180
2	E098010 Integrated Portfolio [en, nl] <i>Hiep Luong -- Department of Telecommunications and Information Processing</i> Indicative price: € 50	6			A:J	180
3	E098010 Integrated Portfolio [en, nl] <i>Hiep Luong -- Department of Telecommunications and Information Processing</i> Indicative price: € 50	3			B:J	90
4	E037810 Safety of Electrical and Mechanical Installations [nl] <i>Jos Knockaert -- Department of Electromechanical, Systems and Metal Engineering</i> Indicative price: € 30	3			A:2	90
5	E039060 Sustainable Energy and Rational Use of Energy <i>Filip Strubbe -- Department of Electronics and Information Systems</i> Indicative price: € 7	4			A:2	120
6	E078310 Sustainable Use of Materials: Metals [nl] <i>Kim Verbeken -- Department of Materials, Textiles and Chemical Engineering</i> Indicative price: € 8	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> Indicative price: € 15	3			A:2	90
8	E078010 Technology and Environment <i>Luc Martens -- Department of Information Technology</i> Indicative price: € 0	3			A:1	90
9	E078752 Water and Air Quality Management <i>Joris Thybaut -- Department of Materials, Textiles and Chemical Engineering</i> Indicative price: € 0	4			A:2	120
10	E092100 Biosystems [nl] <i>Pascal Verdonck -- Department of Electronics and Information Systems</i> Indicative price: unknown	3			A:1	90
11	E075310 Ethics, Engineering and Society [nl] <i>Seppe Segers -- Department of Philosophy and Moral Sciences</i> Indicative price: unknown	3			A:2	90
12	C004009 History and Philosophy of Sciences [nl] <i>Maarten Van Dyck -- Department of Philosophy and Moral Sciences</i> Indicative price: € 0	3			B:2	90
13	E076321 Digital Innovation for People and Society [nl] <i>Erik Mannens -- Department of Electronics and Information Systems</i> Indicative price: unknown	3			A:2	90
14	A001900 Introduction to Psychology [nl] <i>Wim Notebaert -- Department of Experimental Psychology</i> Indicative price: unknown	3			A:1	90
15	H001977 Coaching and Diversity [nl] <i>Elisabeth De Schauwer -- Department of Special Education</i> Indicative price: € 0	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> Indicative price: € 0	6	UKV		A:1	180

17	F001021	Basic Entrepreneurship [nl] <i>Evy Van Lancker -- Department of Marketing, Innovation and Organisation</i> Indicative price: € 0	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> Indicative price: unknown	3		A:1	90
19	F001022	Dare to Venture <i>Johan Verrue -- Department of Marketing, Innovation and Organisation</i> Indicative price: unknown	4		A:2	120
20	E076471	Dare to Start <i>Wouter Haerick -- Department of Information Technology</i> Indicative price: unknown	3		A:2	90
21	E076621	Principles of Law and Construction Law [nl] <i>Jelle Laverge -- Department of Architecture and Urban Planning</i> Indicative price: € 341	3		A:1	90
22	E076951	Engineering Economy <i>Sofie Verbrugge -- Department of Industrial Systems Engineering and Product Design</i> Indicative price: € 60	6		A:1	180
23	F001020	Introduction to Entrepreneurship <i>Petra Andries -- Department of Marketing, Innovation and Organisation</i> Indicative price: € 33	3		A:1	90
24	H002476	Powerful Learning Environments [nl] <i>Bram De Wever -- Department of Educational Studies</i> Indicative price: € 50	6		A:1	180
25	H002477	The Teacher within Class, School and Society [nl] <i>Melissa Tuytens -- Department of Educational Studies</i> Indicative price: € 55	6		A:2	180
26	H002478	The Student: Development and Motivation [nl] <i>Wim Beyers -- Department of Developmental, Personality and Social Psychology</i> Indicative price: € 75	6		A:1	180
27	F000083	Macroeconomics [nl] <i>Freddy Heylen -- Department of Economics</i> Indicative price: € 65	6		A:1	180
28	H002668	Introduction Industrial Psychology [nl] <i>Bart Wille -- Department of Developmental, Personality and Social Psychology</i> Indicative price: € 55	4		A:1	120
29	F000551	Business Skills <i>Mieke Audenaert -- Department of Marketing, Innovation and Organisation</i> Indicative price: € 46	4		C:2	120
30	A003001	Academic English <i>Geert Jacobs -- Department of Linguistics</i> Indicative price: € 0	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> Indicative price: € 0	3		A:1	90

3.3 Elective Courses Ghent University

Subscribe to no more than 16 credit units from the programmes of Ghent University, including the [Ghent University Elective Courses](#).
Subject to approval by the faculty.

Programme related study costs

None

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

Learning materials

The prices stated are indicative and subject to fluctuations.

The list of learning materials per course unit can be found in the course sheets.