

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>	6		1	A:1	180
2	E031251 Design Methodology for FPGAs <i>Dirk Stroobandt -- Department of Electronics and Information Systems</i>	6		1	A:1	180
3	E033021 Electromagnetic-aware High Frequency Design <i>Hendrik Rogier -- Department of Information Technology</i>	6		1	A:1	180
4	E033640 High-speed Electronics <i>Johan Bauwelinck -- Department of Information Technology</i>	6		1	A:2	180
5	E003600 Information Theory <i>Heidi Steendam -- Department of Telecommunications and Information Processing</i>	6		1	B:2	180
6	E012130 Modulation and Detection <i>Nele Noels -- Department of Telecommunications and Information Processing</i>	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>	6		1	A:1	180
2	E008446 Sensors, Actuators and Electronic Microsystems <i>Herbert De Smet -- Department of Electronics and Information Systems</i>	6		1	A:2	180
3	E033702 Hardware-design Project <i>Ioulia Tzouvadaki -- Department of Electronics and Information Systems</i>	6		1	A:2	180
4	E031420 Technology of Integrated Circuits and Microsystems <i>Maaïke Op de Beeck -- Department of Electronics and Information Systems</i>	6		2	B:1	180

### 2.1 Master's Dissertation

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E091103 Master's Dissertation	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

24 credits in year 2

### 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 Bauwelinck -- Department of Information Technology</i>	6				180
2	E030900 Design of Microsystems [nl] <i>Jan Doutreloigne -- Department of Electronics and Information Systems</i>	6			A:1	180

3	E033631	Applied High Frequency Design <i>Guy Torfs -- Department of Information Technology</i>	6		A:1	180
4	E019370	Robotics <i>Tony Belpaeme -- Department of Electronics and Information Systems</i>	6		A:1	180
5	E030761	Microphotonics <i>Dries Van Thourhout -- Department of Information Technology</i>	6		A:1	180
6	E003422	Fundamentals of Statistical Sensor Processing <i>Hiep Luong -- Department of Telecommunications and Information Processing</i>	6		A:1	180
7	E030220	Advanced Analog Design <i>Guy Torfs -- Department of Information Technology</i>	6		A:1	180
8	E031341	Digital Building Blocks [nl] <i>Jan Doutreloigne -- Department of Electronics and Information Systems</i>	6		A:2	180
9	E030320	Avionics: Electronics <i>Dries Vande Ginste -- Department of Information Technology</i>	4		A:2	120
10	E022020	Audio Engineering <i>Dick Botteldooren -- Department of Information Technology</i>	4		A:2	120
11	E012420	Optical Communication Systems <i>Geert Morthier -- Department of Information Technology</i>	6		A:2	180
12	E731050	Vermogenselektronica <i>Jos Knockaert -- Department of Electromechanical, Systems and Metal Engineering</i>	3		A:2	90
13	E024641	Physics of Semiconductor Devices <i>Benoit Bakeroot -- Department of Electronics and Information Systems</i>	6		B:2	180
14	E022700	Computational Solutions of Wave Problems <i>Dick Botteldooren -- Department of Information Technology</i>	6		A:1	180
15	E011322	Queueing Analysis and Simulation <i>Sabine Wittevrongel -- Department of Telecommunications and Information Processing</i>	6		A:1	180
16	E012210	Advanced Modulation and Coding <i>Heidi Steendam -- Department of Telecommunications and Information Processing</i>	4		A:2	120
17	E022250	Bioelectromagnetism <i>Wout Joseph -- Department of Information Technology</i>	4		B:2	120
18	E003710	Game Theory and Multiagent Systems <i>Heidi Steendam -- Department of Telecommunications and Information Processing</i>	6		A:1	180
19	E099400	Research Internship <i>Patrick Segers -- Department of Electronics and Information Systems</i>	6		A:J	180
20	E012321	Connected Systems <i>Jeroen Hoebeke -- Department of Information Technology</i>	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>	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 [nl] <i>Jos Knockaert -- Department of Electromechanical, Systems and Metal Engineering</i>	3			A:2	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>Seppie 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 [nl] <i>Wim Notebaert -- Department of Experimental Psychology</i>	3		A:1	90
15	H001977	Coaching and Diversity [nl] <i>Elisabeth De Schauwer -- Department of Special Education</i>	3	UKV	A:J	90
16	A005503	Context and Nuance. A Critical Reflection on Current Topics [nl] <i>July De Wilde -- 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 Bruiloot -- 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 Studies</i>	6		A:1	180
25	H002477	The Teacher within Class, School and Society [nl] <i>Melissa Tuytens -- Department of Educational Studies</i>	6		A:2	180
26	H002478	The Student: Development and Motivation [nl] <i>Wim Beyers -- Department of Developmental, Personality and Social 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 Developmental, Personality and Social 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 Volssem -- Department of Industrial Systems Engineering and Product Design</i>	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.

## 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