

# Study Programme

Academic year 2025-2026

Faculty of Engineering and Architecture Master of Science in Electrical Engineering -- Communication and Information Technology

# Language of instruction: English

# Programme version 10

1 Gei	neral	Courses			36	credits
Nr Cou	urse		CRDT	Ref MT1	Session	Study
1 E02	22230	Antennas and Propagation Hendrik Rogier Department of Information Technology	6	1	A:1	180
2 E03	81251	Design Methodology for FPGAs Dirk Stroobandt Department of Electronics and Information Systems	6	1	A:1	180
3 E03	3021	Electromagnetic-aware High Frequency Design Hendrik Rogier Department of Information Technology	6	1	A:1	180
4 E03	3640	High-speed Electronics Johan Bauwelinck Department of Information Technology	6	1	A:2	180
5 E00	3600	Information Theory Heidi Steendam Department of Telecommunications and Information Processing	6	1	B:2	180
6 E01	2130	Modulation and Detection Nele Noels Department of Telecommunications and Information Processing	6	2	B:1	180
2 Cou	urses	Related to the Main Subject			48	credits
Nr Cou	urse		CRDT	Ref MT1	Session	Study
1 E01	9370	Robotics Tony Belpaeme Department of Electronics and Information Systems	6	1	A:1	180
2 E01	2320	Mobile and Broadband Access Networks Ingrid Moerman Department of Information Technology	6	1	B:2	180
3 E03	3702	Hardware-design Project Ioulia Tzouvadaki Department of Electronics and Information Systems	6	1	A:2	180
4 E01	1322	Queueing Analysis and Simulation Joris Walraevens Department of Telecommunications and Information Processing	6	2	A:1	180
2.1 M	laster	's Dissertation				
Nr Cou	urse		CRDT	Ref MT1	Session	Study
1 E09	91103	Master's Dissertation	24	2	B:J	720
3 Ele	ctive	Courses			36	credits
Divided a 12 crea	as: dit units	credit units from 1 path from the following list. Subject to approval by th s in year 1, s in year 2.	e faculty.			
3.1 El	lectiv	e Courses: Path 1			36	credits
Subscrib	be to 36	credit units from no less than 2 and no more than 3 modules from the features and the second se	ollowing list. Sub	ject to approval by t	he faculty.	
3.1.1 E	Electiv	ve Courses Communication and Information Technology				
Cuboorib		loss than 16 gradit units from the following list. Subject to approval by t				

 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

 1
 E061330
 Machine Learning
 6
 B:1

Joni Dambre -- Department of Electronics and Information Systems

180

2	E011610	Performance Analysis of Telecommunication Systems Sabine Wittevrongel Department of Telecommunications and Information Processing	4	A:1	120
3	E033620	High Frequency Systems Johan Bauwelinck Department of Information Technology	6		180
4	E019170	Internet of Things Jeroen Hoebeke Department of Information Technology	6	A:1	180
5	E010310	Image Processing [nl] Bart Goossens Department of Telecommunications and Information Processing	6	A:1	180
6	E031440	VLSI Technology and Design Jan Doutreloigne Department of Electronics and Information Systems	6	A:1	180
7	E003422	Fundamentals of Statistical Sensor Processing Hiep Luong Department of Telecommunications and Information Processing	6	A:1	180
8	E033631	Applied High Frequency Design Guy Torfs Department of Information Technology	6	A:1	180
9	E017930	Parallel and Distributed Software Systems Jan Fostier Department of Information Technology	6	A:1	180
10	E003710	Game Theory and Multiagent Systems Heidi Steendam Department of Telecommunications and Information Processing	6	A:1	180
11	E012802	Broadband cable-TV and in-home networks Margot Deruyck Department of Information Technology	4	(A:1) <sup>d</sup>	120
12	E017920	Design of Multimedia Applications Glenn Van Wallendael Department of Electronics and Information Systems	6	A:2	180
13	E030320	Avionics: Electronics Dries Vande Ginste Department of Information Technology	4	A:2	120
14	E022020	Audio Engineering Dick Botteldooren Department of Information Technology	4	A:2	120
15	E010220	Speech Processing Kris Demuynck Department of Electronics and Information Systems	4	A:2	120
16	E004720	Network Modelling and Design Mario Pickavet Department of Information Technology	4	B:2	120
17	E004120	Optimisation Techniques Ljubomir Jovanov Department of Telecommunications and Information Processing	6	A:2	180
18	E031341	Digital Building Blocks [nl] Jan Doutreloigne Department of Electronics and Information Systems	6	A:2	180
19	E019130	Multimedia Techniques [nl] Peter Lambert Department of Electronics and Information Systems	6	A:2	180
20	E022250	Bioelectromagnetism Wout Joseph Department of Information Technology	4	B:2	120
21	E012420	Optical Communication Systems Geert Morthier Department of Information Technology	6	A:2	180
22	E030220	Advanced Analog Design Guy Torfs Department of Information Technology	6	A:1	180
23	E012210	Advanced Modulation and Coding Heidi Steendam Department of Telecommunications and Information Processing	4	A:2	120
24	E034500	Sustainable Computing Lieven Eeckhout Department of Electronics and Information Systems	3	A:2	90
25	E099400	Research Internship Patrick Segers Department of Electronics and Information Systems	6	A:J	180
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## 3.1.2 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

 1
 E099300
 Industry Internship Engineering and Architecture [en, nl]
 6
 A:J

1	E099300	Industry Internship Engineering and Architecture [en, nl]	6	A:J	180
2	E098010	Patrick Segers Department of Electronics and Information Systems Integrated Portfolio [en, nl] Hiep Luong Department of Telecommunications and Information Processing	6	A:J	180

3	E098010	Integrated Portfolio [en, nl] Hiep Luong Department of Telecommunications and Information Processing	3		B:J	90
4	E037810	Safety of Electrical and Mechanical Installations [nl] Jos Knockaert Department of Electromechanical, Systems and Metal Engineering	3		A:2	90
5	E039060	Sustainable Energy and Rational Use of Energy Filip Strubbe Department of Electronics and Information Systems	4		A:2	120
6	E078310	Sustainable Use of Materials: Metals [nl] Kim Verbeken Department of Materials, Textiles and Chemical Engineering	3		A:1	90
7	E078320	Sustainable Use of Materials: Plastics and Derived Materials [nl] Lode Daelemans Department of Materials, Textiles and Chemical Engineering	3		A:2	90
8	E078010	Technology and Environment Luc Martens Department of Information Technology	3		A:1	90
9	E078752	Water and Air Quality Management Joris Thybaut Department of Materials, Textiles and Chemical Engineering	4		A:2	120
10	E092100	Biosystems [nl] Pascal Verdonck Department of Electronics and Information Systems	3		A:1	90
11	E075310	Ethics, Engineering and Society [nl] Seppe Segers Department of Philosophy and Moral Sciences	3		A:2	90
12	C004009	History and Philosophy of Sciences [nl] Maarten Van Dyck Department of Philosophy and Moral Sciences	3		B:2	90
13	E076320	The Information Society and ICT [nl] Erik Mannens Department of Electronics and Information Systems	3		A:2	90
14	A001900	Introduction to Psychology [nl] Wim Notebaert Department of Experimental Psychology	3		A:1	90
15	H001977	Coaching and Diversity [nl] Elisabeth De Schauwer Department of Special Education	3	UKV	A:J	90
16	A005503	Context and Nuance. A Critical Reflection on Current Topics [nl] July De Wilde Department of Translation, Interpreting and Communication	6	UKV	A:1	180
17	F001021	Basic Entrepreneurship [nl] Evy Van Lancker Department of Marketing, Innovation and Organisation	3	UKV	A:1	90
18	A005646	Introduction to Corporate Law [nl] Diederik Bruloot Department of Interdisciplinary Study of Law, Private Law and Business Law	3		A:1	90
19	F001022	Dare to Venture Johan Verrue Department of Marketing, Innovation and Organisation	4		A:2	120
20	E076471	Dare to Start Wouter Haerick Department of Information Technology	3		A:2	90
21	E076621	Principles of Law and Construction Law [nl] Jelle Laverge Department of Architecture and Urban Planning	3		A:1	90
22	E076951	Engineering Economy Sofie Verbrugge Department of Information Technology	6		A:1	180
23	F001020	Introduction to Entrepreneurship Petra Andries Department of Marketing, Innovation and Organisation	3		A:1	90
24	H002476	Powerful Learning Environments [nl] Bram De Wever Department of Educational Studies	6		A:1	180
25	H002477	The Teacher within Class, School and Society [nl] Melissa Tuytens Department of Educational Studies	6		A:2	180
26	H002478	The Student: Development and Motivation [nl] Wim Beyers Department of Developmental, Personality and Social Psychology	6		A:1	180
27	F000083	Macroeconomics [nl] Freddy Heylen Department of Economics	6		A:1	180
28	H001010	Introduction Industrial Psychology [nl] Bart Wille Department of Developmental, Personality and Social Psychology	5		C:1	150
29	F000551	Business Skills Mieke Audenaert Department of Marketing, Innovation and Organisation	4		C:2	120
30	A003001	Academic English Geert Jacobs Department of Linguistics	3	UKV	B:1, A:2	90
31	E075800	Communication [nl] Leen Pollefliet Department of Information Technology	3		A:1	90
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	36 (	credits
the faculty.		
faculty.		
		Study
6	B:1	180
4	A:1	120
6		180
6	A:1	180
4	(A:1) <sup>d</sup>	120
6	A:2	180
4		120
4		120
4	A:2	120
4		120
6		180
6	A:2	180
6	A:2	180
4	B:2	120
6	A:2	180
6	A:1	180
4	A:2	120
	the faculty. ering and Architecture (E) CRDT Ref 1 6 4 6 6 6 6 6 6 6 6 6 6 4 4 6 6 4 4 6 6 4 4 6 6 4 6 6 6 6 6 6 6 6 6 6 6 6 6	the faculty. CRDT Ref M1 Session 6 B:1 4 A:1 6 A:1 7 A:1 8 A:1 8 A:1 8 A:1 9 A:1 9 A:1 9 A:1 9 A:2 9

3

A:1

90

32 E037830 Basics of Health and Safety at Work for Engineers [nl]

24 E034500	Sustainable Computing Lieven Eeckhout Department of Electronics and Information Systems	3	A:2	90
25 E099400	Research Internship Patrick Segers Department of Electronics and Information Systems	6	A:J	180

# 3.2.2 Minors

#### Subscribe to at least 18 credit units from 1 minor from the following list. Subject to approval by the faculty.

#### 3.2.2.1 Minor Operations Management

Subscribe to 18 credit units from the following list, with 6 credit units with reference a.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E076221	Manufacturing Planning and Control Birger Raa Department of Industrial Systems Engineering and Product Design	6	а		A:1	180
2	E004255	Operations Research Models and Methods El-Houssaine Aghezzaf Department of Industrial Systems Engineering and Product Design	6			A:1	180
3	E060240	Quality Engineering and Industrial Statistics Stijn De Vuyst Department of Industrial Systems Engineering and Product Design	6			A:2	180
4	E076951	Engineering Economy Sofie Verbrugge Department of Information Technology	6			A:1	180

3.2.2.2 Minor Biosystems

Subscribe to 18 credit units from the following list, with no less than 8 credit units with reference a. Subject to approval by the faculty.

Nr			CRDT		Session	Study
1	E092623	Modelling of Physiological Systems Patrick Segers Department of Electronics and Information Systems	5	а	A:2	150
2	E092662	From Genome to Organism Fransiska Malfait Department of Biomolecular Medicine	3	а	A:1	90
3	E074011	Quantitative Cell and Tissue Analysis An Hendrix Department of Human Structure and Repair	6	а	A:1	180
4	E063671	Biomaterials and Tissue Engineering Ruslan Dmitriev Department of Human Structure and Repair	5		A:1	150
5	E063682	Biomechanics Charlotte Debbaut Department of Electronics and Information Systems	6		A:1	180
6	E010371	Medical Imaging Stefaan Vandenberghe Department of Electronics and Information Systems	6		A:1	180

### 3.2.2.3 Minor Photonics Engineering

Subscribe to no less than 18 credit units from the following list. Subject to approval by the faculty.

Nr	Course		CRDT Ref MT1	Session	Study
1	E030610	Photonics [nl] Günther Roelkens Department of Information Technology	6	A:2	180
2	E030660	Lasers Geert Morthier Department of Information Technology	4	A:1	120
3	E030761	Microphotonics Dries Van Thourhout Department of Information Technology	6	A:1	180
4	E024800	Optical Materials Kristiaan Neyts Department of Electronics and Information Systems	6	A:1	180
5	E008446	Sensors, Actuators and Electronic Microsystems Herbert De Smet Department of Electronics and Information Systems	6	A:2	180
6	E030721	Laboratories in Photonics Research Alberto Curto Department of Information Technology	6	A:2	180
7	E031521	Physics of Semiconductor Technologies and Devices	4	A:2	120

Geert Van Steenberge -- Department of Electronics and Information Systems

## 3.2.3 Elective Social Courses

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 Nr
 CRDT
 Ref
 MT1
 Session
 Study

1 E099300 Industry Internship Engineering and Architecture [en, nl] Patrick Segers -- Department of Electronics and Information Systems

CRDT Ref	MT1	Session	Study	
6		A:J	180	

2	E098010	Integrated Portfolio [en, nl] Hiep Luong Department of Telecommunications and Information Processing	6		A:J	180
3	E098010	Integrated Portfolio [en, nl] Hiep Luong Department of Telecommunications and Information Processing	3		B:J	90
4	E037810	Safety of Electrical and Mechanical Installations [nl] Jos Knockaert Department of Electromechanical, Systems and Metal Engineering	3		A:2	90
5	E039060	Sustainable Energy and Rational Use of Energy Filip Strubbe Department of Electronics and Information Systems	4		A:2	120
6	E078310	Sustainable Use of Materials: Metals [nl] Kim Verbeken Department of Materials, Textiles and Chemical Engineering	3		A:1	90
7	E078320	Sustainable Use of Materials: Plastics and Derived Materials [nl] Lode Daelemans Department of Materials, Textiles and Chemical Engineering	3		A:2	90
8	E078010	Technology and Environment Luc Martens Department of Information Technology	3		A:1	90
9	E078752	Water and Air Quality Management Joris Thybaut Department of Materials, Textiles and Chemical Engineering	4		A:2	120
10	E092100	Biosystems [nl] Pascal Verdonck Department of Electronics and Information Systems	3		A:1	90
11	E075310	Ethics, Engineering and Society [nl] Seppe Segers Department of Philosophy and Moral Sciences	3		A:2	90
12	C004009	History and Philosophy of Sciences [nl] Maarten Van Dyck Department of Philosophy and Moral Sciences	3		B:2	90
13	E076320	The Information Society and ICT [nl] Erik Mannens Department of Electronics and Information Systems	3		A:2	90
14	A001900	Introduction to Psychology [nl] Wim Notebaert Department of Experimental Psychology	3		A:1	90
15	H001977	Coaching and Diversity [nl] Elisabeth De Schauwer Department of Special Education	3	UKV	A:J	90
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17	F001021	Basic Entrepreneurship [nl] Evy Van Lancker Department of Marketing, Innovation and Organisation	3	UKV	A:1	90
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20	E076471	Dare to Start Wouter Haerick Department of Information Technology	3		A:2	90
21	E076621	Principles of Law and Construction Law [nl] Jelle Laverge Department of Architecture and Urban Planning	3		A:1	90
22	E076951	Engineering Economy Sofie Verbrugge Department of Information Technology	6		A:1	180
23	F001020	Introduction to Entrepreneurship Petra Andries Department of Marketing, Innovation and Organisation	3		A:1	90
24	H002476	Powerful Learning Environments [nl] Bram De Wever Department of Educational Studies	6		A:1	180
25	H002477	The Teacher within Class, School and Society [nl] Melissa Tuytens Department of Educational Studies	6		A:2	180
26	H002478	The Student: Development and Motivation [nl] Wim Beyers Department of Developmental, Personality and Social Psychology	6		A:1	180
27	F000083	Macroeconomics [nl] Freddy Heylen Department of Economics	6		A:1	180
28	H001010	Introduction Industrial Psychology [nl] Bart Wille Department of Developmental, Personality and Social Psychology	5		C:1	150
29	F000551	Business Skills Mieke Audenaert Department of Marketing, Innovation and Organisation	4		C:2	120
30	A003001	Academic English Geert Jacobs Department of Linguistics	3	UKV	B:1, A:2	90
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Leen Pollefliet De	partment of Information Technology			
	Ith and Safety at Work for Engineers [nl] Department of Industrial Systems Engineering and Product Design	3	A:1	90

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: annua
b: tri-annually	d: bi-anı
	e tri-ani

c: annually, from 2026-2027 d: bi-annually, from 2026-2027 e: tri-annually, from 2026-2027 f: annually, from 2027-2028 g: bi-annually, from 2027-2028 h: tri-annually, from 2027-2028 i: annually, from 2028-2029 j: bi-annually, from 2028-2029 k: tri-annually, from 2028-2029