GHENT UNIVERSITY

Study Programme

Academic year 2024-2025

Faculty of Sciences

Master of Science in Computer Science

Language of instruction: Dutch

Programme version 8

1 General Courses — 60 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	C003241	Fundaments of Programming Languages *Christophe Scholliers -- Department of Mathematics, Computer Science and Statistics*	6		1	A:1	165
2	C003758	Machine Learning [en] *Yvan Saeys -- Department of Mathematics, Computer Science and Statistics*	6		1	A:1	180
3	E017930	Parallel and Distributed Software Systems [en] *Filip De Turck -- Department of Information Technology*	6		1	A:1	180
4	C003349	Discrete Algorithms *Veerle Fack -- Department of Mathematics, Computer Science and Statistics*	6		1	A:2	165
5	C004072	Software Engineering Lab 3 *Sofie Van Gassen -- Department of Mathematics, Computer Science and Statistics*	6		1	A:2	180
6	E018520	Compilers [en] *Bjorn De Sutter -- Department of Electronics and Information Systems*	6		1	A:2	180
7	C004041	Data Visualization *Bart Mesuere -- Department of Mathematics, Computer Science and Statistics*	3		1	A:2	90
8	C000957	Intellectual Property Rights *Hendrik Vanhees -- Department of Interdisciplinary Study of Law, Private Law and Business Law*	3		1	A:2	90
9	C004073	Computer Graphics *Peter Lambert -- Department of Electronics and Information Systems*	6		2	A:1	180
10	C004074	Big Data Science *Bart Mesuere -- Department of Mathematics, Computer Science and Statistics*	6		2	A:2	165
11	C004075	Internship *Peter Dawyndt -- Department of Mathematics, Computer Science and Statistics*	6		2	A:J	180

2 Minors — 30 credits

Subscribe to 1 minor from the following list.

2.1 Minor Research — 30 credits

Subscribe to 30 credit units from no less than 1 and no more than 2 modules from the following list. Subject to approval by the faculty.
Of which at least 18 credits from the field of computer science.

2.1.1 Elective Course List

Subscribe to no more than 30 credit units from the following list.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E010310	Image Processing *Wilfried Philips -- Department of Telecommunications and Information Processing*	6			A:1	180
2	C000627	Computability and Complexity [en] *Giovanni Solda -- Department of Mathematics: Analysis, Logic and Discrete Mathematics*	6			A:1	165
3	C004011	Advanced Numerical Methods *Marnix Van Daele -- Department of Mathematics, Computer Science and Statistics*	6			A:2	180
4	E019170	Internet of Things [en] *Jeroen Hoebeke -- Department of Information Technology*	6			A:1	180
5	E019370	Robotics [en] *Tony Belpaeme -- Department of Electronics and Information Systems*	6			A:1	180

6	C000145	Algorithmic Graph Theory *Gunnar Brinkmann -- Department of Mathematics, Computer Science and Statistics*	6	A:2	165
7	C004552	Soft Computing *Chris Cornelis -- Department of Mathematics, Computer Science and Statistics*	6	A:2[a]	165
8	C003711	Computational Challenges in Bioinformatics [en] *Peter Dawyndt -- Department of Mathematics, Computer Science and Statistics*	6	A:2	180
9	C001026	Computer Algebra *Andreas Weiermann -- Department of Mathematics: Analysis, Logic and Discrete Mathematics*	6	A:2	165
10	E061460	Computer Vision: Theory and Applications *Hiep Luong -- Department of Telecommunications and Information Processing*	6	A:2	180
11	E003600	Information Theory [en] *Heidi Steendam -- Department of Telecommunications and Information Processing*	6	B:2	180
12	E017920	Design of Multimedia Applications [en] *Glenn Van Wallendael -- Department of Electronics and Information Systems*	6	A:2	180
13	E010220	Speech Processing [en] *Kris Demuynck -- Department of Electronics and Information Systems*	4	A:2	120
14	E034150	Blockchain Technologies and Applications [en] *Bjorn De Sutter -- Department of Electronics and Information Systems*	3	A:1	90
15	C004413	Causal Machine Learning [en] *Stijn Vansteelandt -- Department of Mathematics, Computer Science and Statistics*	5	A:2	150
16	E031800	AI Research Seminar [en] *Tijl De Bie -- Department of Electronics and Information Systems*	3	A:1	90
17	E061350	Deep Generative Models [en] *Bart Dhoedt -- Department of Information Technology*	4	A:2	120
18	E034500	Sustainable Computing [en] *Lieven Eeckhout -- Department of Electronics and Information Systems*	3	A:2	90
19	E061341	Natural Language Processing [en] *Chris Develder -- Department of Information Technology*	6	A:2	180
20	E017942	Software Hacking and Protection [en] *Bjorn De Sutter -- Department of Electronics and Information Systems*	6	A:1	180
21	E017950	Secure Software and Systems [en] *Bart Coppens -- Department of Electronics and Information Systems*	6	A:2	180
22	E008710	Network Security [en] *Bruno Volckaert -- Department of Information Technology*	6	A:1	180
23	E018610	Database Design *Guy De Tré -- Department of Telecommunications and Information Processing*	4	A:1	120
24	E018130	NoSQL Databases [en] *Antoon Bronselaer -- Department of Telecommunications and Information Processing*	3	A:2	90
25	E018700	Data Quality [en] *Antoon Bronselaer -- Department of Telecommunications and Information Processing*	3	A:1	90
26	E017310	Cloud Storage and Computing [en] *Bruno Volckaert -- Department of Information Technology*	4	A:2	120
27	C004623	Meta Programming and Reflection *Vrije Universiteit Brussel*	6		150

2.1.2 Elective Courses UGent or other Universities

Subscribe to no more than 30 credit units to be chosen from the study programmes of:
- UGent including the
  Ghent University elective courses,
- Other higher education of the Flemish Community
- Erasmus+ partner universities including the ENLIGHT (online) elective courses.

2.2 Minor Economics and Business Administration 30 credits

Subscribe to 30 credit units from no less than 1 and no more than 2 modules from the following list.

2.2.1 General Courses

Subscribe to no less than 24 and no more than 30 credit units from the following list, distributed over the first standard learning path as follows: no more than 24 credit units in year 1.
Dare to Venture can be chosen if you have already subscribed to Introduction to Entrepreneurship.

Nr	Course	CRDT	Ref	MT1	Session	Study

1	F000758	Economics *Bruno Merlevede -- Department of Economics*	5		A:1	150
2	E076431	Introduction to Entrepreneurship [en] *Petra Andries -- Department of Marketing, Innovation and Organisation*	3		A:1	90
3	E076460	Dare to Venture [en] *Johan Verrue -- Department of Marketing, Innovation and Organisation*	4		A:2	120
4	F000845	Business Administration *Mirjam Knockaert -- Department of Marketing, Innovation and Organisation*	4		A:2	120
5	F000551	Business Skills [en] *Mieke Audenaert -- Department of Marketing, Innovation and Organisation*	4		C:2	120
6	F000768	Marketing Management *Maggie Geuens -- Department of Marketing, Innovation and Organisation*	6		A:1	180
7	F000855	Organization Theory [en] *Gosia Kozusznik -- Department of Marketing, Innovation and Organisation*	4		A:2	120
8	F001009	Business Cycles and Growth *Freddy Heylen -- Department of Economics*	5		A:1	150
9	F001008	Markets and Prices *Dirk Van de gaer -- Department of Economics*	5		A:1	150
10	F001010	Financial Markets and Institutions *Rudi Vander Vennet -- Department of Economics*	5		A:2	150
11	F000752	Environmental Economics and Policy *Brent Bleys -- Department of Economics*	4		B:2	120
12	F000859	Corporate Social Responsibility *Saskia Crucke -- Department of Marketing, Innovation and Organisation*	3		A:2	90

2.2.2 Elective Courses UGent or other Universities

Subscribe to no more than 6 credit units to be chosen from the study programmes of:
- UGent including the Ghent University elective courses,
- Other higher education of the Flemish Community,
- Erasmus+ partner universities including the ENLIGHT (online) elective courses.

3 Master's Dissertation — 30 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	C002309	Master's Dissertation *N. N.*	30		2	A:J	825

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 2025-2026	f: annually, from 2026-2027	i: annually, from 2027-2028
b: tri-annually	d: bi-annually, from 2025-2026	g: bi-annually, from 2026-2027	j: bi-annually, from 2027-2028
	e: tri-annually, from 2025-2026	h: tri-annually, from 2026-2027	k: tri-annually, from 2027-2028