GHENT UNIVERSITY

Study Programme

Academic year 2025-2026

Faculty of Engineering and Architecture

Master of Science in Industrial Engineering and Operations Research

Language of instruction: Dutch

Programme version 17

1 General Courses — 66 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E004255	Operations Research Models and Methods *El-Houssaine Aghezzaf -- Department of Industrial Systems Engineering and Product Design*	6		1	B:1	180
2	E005741	Simulation of Stochastic Systems *Stijn De Vuyst -- Department of Industrial Systems Engineering and Product Design*	6		1	B:1	180
3	E018321	Algorithmic Programming *Pieter Leyman -- Department of Industrial Systems Engineering and Product Design*	6		1	B:1	180
4	E076951	Engineering Economy *Sofie Verbrugge -- Department of Information Technology*	6		1	B:1	180
5	E004241	Industrial Systems Modelling and Optimization *El-Houssaine Aghezzaf -- Department of Industrial Systems Engineering and Product Design*	6		1	B:2	180
6	E076341	Information Technology for Industrial Engineering *Michiel Vlaminck -- Department of Telecommunications and Information Processing*	3		1	B:2	90
7	E004153	Heuristics and Search Methods *Sidharta Gautama -- Department of Industrial Systems Engineering and Product Design*	3		1	B:2	90
8	E076221	Manufacturing Planning and Control *Birger Raa -- Department of Industrial Systems Engineering and Product Design*	6		1	B:1	180
9	E076380	Methods Engineering and Work Measurement *Dieter Claeys -- Department of Industrial Systems Engineering and Product Design*	6		1	B:2	180
10	E060240	Quality Engineering and Industrial Statistics *Stijn De Vuyst -- Department of Industrial Systems Engineering and Product Design*	6		1	B:2	180
11	E004701	Design of Manufacturing and Service Operations *Dieter Claeys -- Department of Industrial Systems Engineering and Product Design*	6		1	B:1	180
12	E076251	Supply Chain Engineering *Birger Raa -- Department of Industrial Systems Engineering and Product Design*	6		2	B:1	180

2 Elective Courses — 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. Students take either 15 credit units from module 2.1 (in-depth elective courses) or the Minor Artificial Intelligence of at least 18 credit units. Supplement with course units from the other modules.

2.1 In-depth Elective Courses

Subscribe to no less than 15 credit units from the following list. Subject to approval by the faculty.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E004720	Network Modelling and Design *Mario Pickavet -- Department of Information Technology*	4			A:2	120
2	E032600	Advanced Linear Process Control [en] *Clara Ionescu -- Department of Electromechanical, Systems and Metal Engineering*	6			(A:1)[c]	180
3	E011320	Queueing Theory *Joris Walraevens -- Department of Telecommunications and Information Processing*	6			C:1	180
4	E061330	Machine Learning *Joni Dambre -- Department of Electronics and Information Systems*	6			A:1	180
5	E019331	ICT and Mechatronics *Guillaume Crevecoeur -- Department of Electromechanical, Systems and Metal Engineering*	6			B:2	180

6	E007120	Modelling and Control of Dynamic Systems *Mia Loccufier -- Department of Electromechanical, Systems and Metal Engineering*	6		A:2	180
7	E003710	Game Theory and Multiagent Systems [en] *Heidi Steendam -- Department of Telecommunications and Information Processing*	6		A:1	180
8	E003422	Fundamentals of Statistical Sensor Processing [en] *Hiep Luong -- Department of Telecommunications and Information Processing*	6		A:1	180
9	E018240	Big Data Technology [en] *Dieter De Witte -- Department of Electronics and Information Systems*	4		A:1	120
10	E084460	Design of Urban Services [en] *Sidharta Gautama -- Department of Industrial Systems Engineering and Product Design*	6		A:2	180

2.2 Minor Artifical Intelligence

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	E061330	Machine Learning [en] *Joni Dambre -- Department of Electronics and Information Systems*	6			B:1	180
2	E016340	Probabilistic Graphical Models [en] *Aleksandra Pizurica -- Department of Telecommunications and Information Processing*	4			A:2	120
3	E018230	Recommender Systems [en] *Toon De Pessemier -- Department of Information Technology*	6			A:2	180
4	E003710	Game Theory and Multiagent Systems [en] *Heidi Steendam -- Department of Telecommunications and Information Processing*	6			A:1	180
5	E061370	Data Visualization for and with AI [en] *Jefrey Lijffijt -- Department of Electronics and Information Systems*	3			A:1	90
6	E018240	Big Data Technology [en] *Dieter De Witte -- Department of Electronics and Information Systems*	4			A:1	120
7	E018250	Big Data Algorithms [en] *Dieter De Witte -- Department of Electronics and Information Systems*	3			A:2	90
8	E016350	Artificial Intelligence [en] *Aleksandra Pizurica -- Department of Telecommunications and Information Processing*	3			B:2	90

2.3

Subscribe to no more than 15 credit units from the following list. Subject to approval by the faculty.

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E099300	Industry Internship Engineering and Architecture [en, nl] *Patrick Segers -- Department of Electronics and Information Systems*	6			A:J	180
2	E099400	Research Internship [en] *Patrick Segers -- Department of Electronics and Information Systems*	6			A:J	180
3	E099400	Research Internship [en] *Patrick Segers -- Department of Electronics and Information Systems*	3			B:J	90
4	E098010	Integrated Portfolio [en, nl] *Hiep Luong -- Department of Telecommunications and Information Processing*	6			A:J	180
5	E098010	Integrated Portfolio [en, nl] *Hiep Luong -- Department of Telecommunications and Information Processing*	3			B:J	90
6	E037830	Basics of Health and Safety at Work for Engineers *Sofie Van Volsem -- Department of Industrial Systems Engineering and Product Design*	3			A:1	90
7	E076820	Project Management [en] *Mario Vanhoucke -- Department of Business Informatics and Operations Management*	6			A:2	180
8	E037810	Safety of Electrical and Mechanical Installations *Jos Knockaert -- Department of Electromechanical, Systems and Metal Engineering*	3			A:2	90
9	E076320	The Information Society and ICT *Erik Mannens -- Department of Electronics and Information Systems*	3			A:2	90
10	B001514	Transport Economics and Policy [en] *Frank Witlox -- Department of Geography*	3			A:1	90
11	F000892	Innovation Management [en] *Katrien Verleye -- Department of Marketing, Innovation and Organisation*	3			A:2	90
12	F001022	Dare to Venture [en] *Johan Verrue -- Department of Marketing, Innovation and Organisation*	4			A:2	120

13	F000750	Labour and Employment *Stijn Baert -- Department of Economics*	6			A:1	180
14	F000083	Macroeconomics *Freddy Heylen -- Department of Economics*	6			A:1	180
15	H001010	Introduction Industrial Psychology *Bart Wille -- Department of Developmental, Personality and Social Psychology*	5			C:1	150
16	A005646	Introduction to Corporate Law *Diederik Bruloot -- Department of Interdisciplinary Study of Law, Private Law and Business Law*	3			A:1	90
17	F000551	Business Skills [en] *Mieke Audenaert -- Department of Marketing, Innovation and Organisation*	4			C:2	120
18	F000132	Corporate Finance [en] *Virginie Mataigne -- Department of Accounting, Corporate Finance and Taxation*	6			A:2	180
19	F000683	Investment Analysis [en] *Michael Frömmel -- Department of Economics*	6			A:1	180
20	F000778	Business Process Management [en] *Michaël Verdonck -- Department of Business Informatics and Operations Management*	4			A:2	120
21	H001977	Coaching and Diversity *Elisabeth De Schauwer -- Department of Special Education*	3	UKV		A:J	90
22	E078310	Sustainable Use of Materials: Metals *Kim Verbeken -- Department of Materials, Textiles and Chemical Engineering*	3			A:1	90
23	E078320	Sustainable Use of Materials: Plastics and Derived Materials *Lode Daelemans -- Department of Materials, Textiles and Chemical Engineering*	3			A:2	90
24	E078010	Technology and Environment [en] *Luc Martens -- Department of Information Technology*	3			A:1	90
25	A001900	Introduction to Psychology *Wim Notebaert -- Department of Experimental Psychology*	3			A:1	90
26	D002354	Movement and Sports: Now and Later *Veerle Segers -- Department of Movement and Sports Sciences*	3	UKV		A:2	90
27	K001298	Sustainable Development [en] *Bernard Mazijn -- Department of Conflict and Development Studies*	5			A:2	150
28	C004545	Bayesian Statistics [en] *Koen De Turck -- Department of Telecommunications and Information Processing*	5			A:2	150

2.4 Elective Courses Faculty

Subscribe to no more than 15 credit units of technical courses from the other programmes Master of Science in Engineering (with the exception of Architecture) of the Faculty of Engineering and Architecture. Subject to approval by the faculty.

3 Master's Dissertation — 24 credits

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E091103	Master's Dissertation	24		2	A: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 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 2026-2027	f: annually, from 2027-2028	i: annually, from 2028-2029
b: tri-annually	d: bi-annually, from 2026-2027	g: bi-annually, from 2027-2028	j: bi-annually, from 2028-2029
	e: tri-annually, from 2026-2027	h: tri-annually, from 2027-2028	k: tri-annually, from 2028-2029