Study Programme

Academic year 2024-2025

Faculty of Engineering and Architecture

Master of Science in Industrial Engineering and Operations Research

Language of instruction: Dutch

Programme version 16

1 General Courses — 66 credits

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

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	4			A:2	120
		Mario Pickavet -- Department of Information Technology					
2	E007920	Computer Control of Industrial Processes [en]	6			A:1	180
		Clara Ionescu -- Department of Electromechanical, Systems and Metal Engineering					
3	E011320	Queueing Theory	6			C:1	180
		Joris Walraevens -- Department of Telecommunications and Information Processing					
4	E061330	Machine Learning	6			A:1	180
		Joni Dambre -- Department of Electronics and Information Systems					
5	E019331	ICT and Mechatronics	6			B:2	180
		Guillaume Crevecoeur -- Department of Electromechanical, Systems and Metal Engineering					

Nr	Course		CRDT	Ref	MT1	Session	Study
6	E007120	Modelling and Control of Dynamic Systems	6			A:2	180
		Mia Loccufier -- Department of Electromechanical, Systems and Metal Engineering					
7	E003710	Game Theory and Multiagent Systems [en]	6			A:1	180
		Heidi Steendam -- Department of Telecommunications and Information Processing					
8	E003422	Fundamentals of Statistical Sensor Processing [en]	6			A:1	180
		Hiep Luong -- Department of Telecommunications and Information Processing					
9	E018240	Big Data Technology [en]	4			A:1	120
		Dieter De Witte -- Department of Electronics and Information Systems					
10	E084460	Design of Urban Services [en]	6			A:2	180
		Sidharta Gautama -- Department of Industrial Systems Engineering and Product Design					

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

2.3 Broadening Elective Courses

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]	6			A:J	180
		Patrick Segers -- Department of Electronics and Information Systems					
2	E099400	Research Internship [en]	6			A:J	180
		Patrick Segers -- Department of Electronics and Information Systems					
3	E099400	Research Internship [en]	3			B:J	90
		Patrick Segers -- Department of Electronics and Information Systems					
4	E098010	Integrated Portfolio [en, nl]	6			A:J	180
		Hiep Luong -- Department of Telecommunications and Information Processing					
5	E098010	Integrated Portfolio [en, nl]	3			B:J	90
		Hiep Luong -- Department of Telecommunications and Information Processing					
6	E076820	Project Management [en]	6			A:2	180
		Mario Vanhoucke -- Department of Business Informatics and Operations Management					
7	E037810	Safety of Electrical and Mechanical Installations	3			A:2	90
		Jos Knockaert -- Department of Electromechanical, Systems and Metal Engineering					
8	E076320	The Information Society and ICT	3			A:2	90
		Erik Mannens -- Department of Electronics and Information Systems					
9	F000627	Transport Economics	6			A:2	180
		Jochen Maes -- Department of Economics					
10	F000892	Innovation Management [en]	3			A:2	90
		Katrien Verleye -- Department of Marketing, Innovation and Organisation					
11	E076460	Dare to Venture [en]	4			A:2	120
		Johan Verrue -- Department of Marketing, Innovation and Organisation					
12	F000224	Labour and Employment	5			A:1	150
		Stijn Baert -- Department of Economics					
13	F000083	Macroeconomics	6			A:1	180
		Freddy Heylen -- Department of Economics					

Nr	Code	Course	CRDT	Ref	MT1	Session	Study
14	H001010	Introduction Industrial Psychology	5			A:2	150
		Bart Wille -- Department of Developmental, Personality and Social Psychology					
15	A005646	Introduction to Corporate Law	3			A:1	90
		Diederik Bruloot -- Department of Interdisciplinary Study of Law, Private Law and Business Law					
16	F000551	Business Skills [en]	4			C:2	120
		Mieke Audenaert -- Department of Marketing, Innovation and Organisation					
17	F000132	Corporate Finance [en]	6			A:2	180
		Virginie Mataigne -- Department of Accounting, Corporate Finance and Taxation					
18	F000683	Investment Analysis [en]	6			A:1	180
		Michael Frömmel -- Department of Economics					
19	F000778	Business Process Management [en]	4			A:2	120
		Michaël Verdonck -- Department of Business Informatics and Operations Management					
20	H001977	Coaching and Diversity	3	UKV		A:J	90
		Elisabeth De Schauwer -- Department of Special Education					
21	E078310	Sustainable Use of Materials: Metals	3			A:1	90
		Kim Verbeken -- Department of Materials, Textiles and Chemical Engineering					
22	E078320	Sustainable Use of Materials: Plastics and Derived Materials	3			A:2	90
		Lode Daelemans -- Department of Materials, Textiles and Chemical Engineering					
23	E078010	Technology and Environment [en]	3			A:1	90
		Luc Martens -- Department of Information Technology					
24	A001900	Introduction to Psychology	3			A:1	90
		Wim Notebaert -- Department of Experimental Psychology					
25	D002354	Movement and Sports: Now and Later	3	UKV		A:2	90
		Veerle Segers -- Department of Movement and Sports Sciences					
26	K001298	Sustainable Development [en]	5			A:2	150
		Bernard Mazijn -- Department of Conflict and Development Studies					
27	C004545	Bayesian Statistics [en]	5			A:2	150
		Koen De Turck -- Department of Telecommunications and Information Processing					

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 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