

Faculty of Engineering and Architecture
Master of Science in Civil Engineering

Language of instruction: English
Programme version 13

1 General Courses 64 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E044940 FEM and Constitutive Material Laws in Structural Engineering <i>Diego Lorenzo Allaix -- Department of Structural Engineering and Building Materials</i> Indicative price: € 0	3		1	B:1	90
2	E040661 Structural Dynamics <i>Mia Loccufer -- Department of Electromechanical, Systems and Metal Engineering</i> Indicative price: € 8	5		1	B:1	150
3	E045621 Groundwater and Contaminant Flow <i>Herman Peiffer -- Department of Civil Engineering</i> Indicative price: unknown	4		1	B:1	120
4	E044311 Structural Stability <i>Robby Caspeele -- Department of Structural Engineering and Building Materials</i> Indicative price: € 20	6		1	A:1	180
5	E045860 Water Management and Environment <i>Tom De Mulder -- Department of Civil Engineering</i> Indicative price: € 26	5		1	B:1	150
6	E052621 Concrete Structures: Prestressed Concrete and Slabs <i>Roman Wan-Wendner -- Department of Structural Engineering and Building Materials</i> Indicative price: € 20	6		1	A:2	180
7	E054820 Inland Waterways and Locks <i>Tom De Mulder -- Department of Civil Engineering</i> Indicative price: € 40	6		1	B:2	180
8	E052210 Geotechnics <i>Mahya Roustaei Hossein Abadi -- Department of Civil Engineering</i> Indicative price: unknown	5		1	B:2	150
9	E053560 Specialised Road Engineering and Mobility <i>Pieter De Winne -- Department of Civil Engineering</i> Indicative price: € 0	5		1	B:2	150
10	E050923 Structural Reliability and Risk Analysis <i>Robby Caspeele -- Department of Structural Engineering and Building Materials</i> Indicative price: € 15	4		1	A:2	120
11	E054920 Coastal Engineering and Harbour Construction <i>Peter Troch -- Department of Civil Engineering</i> Indicative price: € 0	6		2	B:1	180
12	E044821 Advanced Bridge and Tunnel Engineering <i>Hans De Backer -- Department of Civil Engineering</i> Indicative price: € 0	6		2	A:1	180
13	E050100 Design of Civil Structures <i>Bart De Pauw -- Department of Civil Engineering</i> Indicative price: unknown	3		2	B:2	90

2 Majors 20 credits

Subscribe to 20 credit units from 1 major from the following list. Subject to approval by the faculty.

2.1 Major Dredging and Offshore Engineering

Subscribe to 20 credit units from the following list. Subject to approval by the faculty.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E055120 Introduction to Ships and Marine Technology <i>Evert Lataire -- Department of Civil Engineering</i> Indicative price: € 1,020	4		1	A:1	120
2	E055400 Coastal Hydrodynamics <i>Peter Troch -- Department of Civil Engineering</i> Indicative price: € 15	3		2	A:1	90
3	E044671 Offshore Foundations <i>Bruno Stuyts -- Department of Civil Engineering</i> Indicative price: unknown	4		2	A:1	120
4	E054680 Dredging: Techniques and Processes <i>Mahya Roustaei Hossein Abadi -- Department of Civil Engineering</i> Indicative price: unknown	5		2	A:2	150
5	E044666 Offshore Structures <i>Andreas Kortenhaus -- Department of Civil Engineering</i> Indicative price: € 0	4		2	A:2	120

2.2 Major Construction Design

Subscribe to 20 credit units from the following list. Subject to approval by the faculty.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E061502 Spatial Structures <i>Jan Belis -- Department of Structural Engineering and Building Materials</i> Indicative price: € 15	6		1	A:1	180
2	E044902 Conceptual Design <i>Bart De Pauw -- Department of Civil Engineering</i> Indicative price: unknown	5		1	A:2	150
3	E044571 Non-linear and Plastic Methods of Structural Analysis <i>Robby Caspeele -- Department of Structural Engineering and Building Materials</i> Indicative price: € 20	3		2	A:1	90
4	E044930 Seismic Design <i>Hervé Degée -- Department of Structural Engineering and Building Materials</i> Indicative price: € 0	3		2	A:2	90
5	E044631 Glass and Facade Structures <i>Jan Belis -- Department of Structural Engineering and Building Materials</i> Indicative price: € 20	3		2	A:2	90

3 Elective Courses

12 credits

Subscribe to 12 credit units from the following modules. Subject to approval by the faculty.

Students choose:

- no less than 3 and no more than 9 credit units from the Elective Technical Courses Civil Engineering (module 3.1);
- no less than 3 and no more than 9 credit units from the Broadening Elective Courses (clusters 3.2.1-3.2.11), with no more than 1 course for cluster 3.2.1, 3.2.7 and 3.2.11 and no more than 2 courses per cluster for the other clusters;
- no more than 6 credit units from the programmes of Ghent University (cluster 3.2.12).

3.1 Elective Technical Courses in Civil Engineering

Subscribe to no less than 3 and no more than 9 credit units from the following list.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E052630 Prefabricated Concrete Constructions <i>Stijn Matthys -- Department of Structural Engineering and Building Materials</i> Indicative price: € 75	3			A:1	90
2	E050720 Diagnosis and Repair of Buildings <i>Stijn Matthys -- Department of Structural Engineering and Building Materials</i> Indicative price: € 0	3			A:1	90
3	E065480 Life Cycle Assessment of Materials and Structures <i>Nele De Belie -- Department of Structural Engineering and Building Materials</i> Indicative price: € 12	3			A:2	90
4	E051610 Passive Fire Protection <i>Emmanuel Annerel -- Department of Structural Engineering and Building Materials</i> Indicative price: unknown	3			A:1	90

5	E053620	Railroads [nl] <i>Jan Mys -- Department of Civil Engineering</i> Indicative price: unknown	3		A:2	90
6	E055320	Ship Behaviour in Shallow and Confined Water <i>Guillaume Delefortrie -- Department of Civil Engineering</i> Indicative price: € 25	3		A:2	90
7	E081830	Performance-based design: Fire Protection of Buildings <i>Bart Merci -- Department of Structural Engineering and Building Materials</i> Indicative price: € 0	3		B:2	90

3.2 Broadening Elective Courses

Subscribe to no less than 3 and no more than 9 credit units from the following list.

When making their selection, students must take into account the maximum number of courses that may be included per module.

3.2.1 Cluster Internship and Integrated portfolio

Subscribe to maximum 1 course.

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> Indicative price: unknown	6			A:J	180
2	E099400 Research Internship <i>Patrick Segers -- Department of Electronics and Information Systems</i> Indicative price: unknown	6			A:J	180
3	E099400 Research Internship <i>Patrick Segers -- Department of Electronics and Information Systems</i> Indicative price: unknown	3			B:J	90
4	E098010 Integrated Portfolio [en, nl] <i>Hiep Luong -- Department of Telecommunications and Information Processing</i> Indicative price: € 50	6			A:J	180
5	E098010 Integrated Portfolio [en, nl] <i>Hiep Luong -- Department of Telecommunications and Information Processing</i> Indicative price: € 50	3			B:J	90

3.2.2 Cluster Sustainability and Transition

Subscribe to maximum 2 courses.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E086621 Planning and Transition: Mobility <i>Koos Fransen -- Department of Civil Engineering</i> Indicative price: € 0	3			A:1	90
2	E035421 Sustainable Energy <i>Jan Mertens -- Department of Electromechanical, Systems and Metal Engineering</i> Indicative price: unknown	3			A:2	90
3	E039060 Sustainable Energy and Rational Use of Energy <i>Filip Strubbe -- Department of Electronics and Information Systems</i> Indicative price: € 7	4			A:2	120
4	E078310 Sustainable Use of Materials: Metals [nl] <i>Kim Verbeken -- Department of Materials, Textiles and Chemical Engineering</i> Indicative price: € 8	3			A:1	90
5	E078320 Sustainable Use of Materials: Plastics and Derived Materials [nl] <i>Lode Daelemans -- Department of Materials, Textiles and Chemical Engineering</i> Indicative price: € 15	3			A:2	90
6	E078010 Technology and Environment <i>Luc Martens -- Department of Information Technology</i> Indicative price: € 0	3			A:1	90
7	E078752 Water and Air Quality Management <i>Joris Thybaut -- Department of Materials, Textiles and Chemical Engineering</i> Indicative price: € 0	4			A:2	120

3.2.3 Cluster Safety and Health

Subscribe to maximum 2 courses.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E037830 Basics of Health and Safety at Work for Engineers [nl] <i>Sofie Van Volsem -- Department of Industrial Systems Engineering and Product Design</i>	3			A:1	90

[Indicative price: € 0](#)

2	E037810	Safety of Electrical and Mechanical Installations [nl] <i>Jos Knockaert -- Department of Electromechanical, Systems and Metal Engineering</i> Indicative price: € 30	3			A:2	90
3	E092100	Biosystems [nl] <i>Pascal Verdonck -- Department of Electronics and Information Systems</i> Indicative price: unknown	3			A:1	90

3.2.4 Cluster Digitalization and Artificial Intelligence

[Subscribe to maximum 2 courses.](#)

Nr	Course		CRDT	Ref	MT1	Session	Study
1	E076321	Digital Innovation for People and Society [nl] <i>Erik Mannens -- Department of Electronics and Information Systems</i> Indicative price: unknown	3			A:2	90
2	E080830	Information Management in Architecture and Construction [nl, en] <i>Paulus Present -- Department of Architecture and Urban Planning</i> Indicative price: € 0	3			A:2	90
3	E016350	Artificial Intelligence <i>Aleksandra Pizurica -- Department of Telecommunications and Information Processing</i> Indicative price: € 75	3			B:2	90
4	E061331	Machine Learning: Learning from Data <i>Joni Dambre -- Department of Electronics and Information Systems</i> Indicative price: € 0	6			A:1	180
5	E045280	Computational Fluid Dynamics <i>Joris Degroote -- Department of Electromechanical, Systems and Metal Engineering</i> Indicative price: € 0	3			A:1	90

3.2.5 Cluster Economy and Entrepreneurship

[Subscribe to maximum 2 courses.](#)

Access to maximum 2 courses

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E076951	Engineering Economy	6		A:1	180
	Sofie Verbrugge -- Department of Industrial Systems Engineering and Product Design					
	Indicative price: € 60					
2	F000083	Macroeconomics [nl]	6		A:1	180
	Freddy Heylen -- Department of Economics					
	Indicative price: € 65					
3	F001022	Dare to Venture	4		A:2	120
	Johan Verrue -- Department of Marketing, Innovation and Organisation					
	Indicative price: unknown					
4	E076471	Dare to Start	3		A:2	90
	Wouter Haerick -- Department of Information Technology					
	Indicative price: unknown					
5	F001020	Introduction to Entrepreneurship	3		A:1	90
	Petra Andries -- Department of Marketing, Innovation and Organisation					
	Indicative price: € 33					
6	F001021	Basic Entrepreneurship [nl]	3	UKV	A:1	90
	Evy Van Lancker -- Department of Marketing, Innovation and Organisation					
	Indicative price: € 0					

3.2.6 Cluster Law

[Subscribe to maximum 2 courses.](#)

Subscribe to Maximum 2 courses.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E076621 Principles of Law and Construction Law [nl] <i>Jelle Laverge -- Department of Architecture and Urban Planning</i> Indicative price: € 341	3			A:1	90
2	B001581 Human Rights: Multidisciplinary Perspectives <i>Eva Brems -- Department of European, Public and International Law</i> Indicative price: unknown	5	UKV		A:2	150
3	A005646 Introduction to Business Law [nl] <i>Diederik Bruloot -- Department of Interdisciplinary Study of Law, Private Law and Business Law</i> Indicative price: unknown	3			A:1	90

3.2.7 Cluster Operations Management

[Subscribe to maximum 1 course.](#)

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E076221 Manufacturing Planning and Control <i>Birger Raa -- Department of Industrial Systems Engineering and Product Design</i> Indicative price: € 0	6			A:1	180
2	E004255 Operations Research Models and Methods <i>El-Houssaine Aghezzaf -- Department of Industrial Systems Engineering and Product Design</i> Indicative price: € 60	6			A:1	180
3	E060240 Quality Engineering and Industrial Statistics <i>Stijn De Vuyst -- Department of Industrial Systems Engineering and Product Design</i> Indicative price: € 50	6			A:2	180

3.2.8 Cluster Psychology and People Management

[Subscribe to maximum 2 courses.](#)

Nr	Course	CRDT	Ref	MT1	Session	Study
1	A001900 Introduction to Psychology [nl] <i>Wim Notebaert -- Department of Experimental Psychology</i> Indicative price: unknown	3			A:1	90
2	H002668 Introduction Industrial Psychology [nl] <i>Bart Wille -- Department of Developmental, Personality and Social Psychology</i> Indicative price: € 55	4			A:1	120
3	H001977 Coaching and Diversity [nl] <i>Elisabeth De Schauwer -- Department of Special Education</i> Indicative price: € 0	3	UKV		A:J	90
4	F000551 Business Skills <i>Mieke Audenaert -- Department of Marketing, Innovation and Organisation</i> Indicative price: € 46	4			C:2	120
5	F001012 Leadership for student directors [nl] <i>Brecht Neyt -- Department of Economics</i> Indicative price: unknown	3	UKV		A:1	90
6	H002395 Migration and Society: an Interdisciplinary Introduction <i>Robin Vandevoordt -- Department of Social Work and Social Pedagogy</i> Indicative price: € 0	5	UKV		A:2	150
7	A005569 Global Minds <i>Amaury Frankl -- Department of Geography</i> Indicative price: € 0	5	UKV		A:2	150

3.2.9 Cluster Ethics and Philosophy

[Subscribe to maximum 2 courses.](#)

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E075310 Ethics, Engineering and Society [nl] <i>Seppe Segers -- Department of Philosophy and Moral Sciences</i> Indicative price: unknown	3			A:2	90
2	C004009 History and Philosophy of Sciences [nl] <i>Maarten Van Dyck -- Department of Philosophy and Moral Sciences</i> Indicative price: € 0	3			B:2	90
3	A005503 Context and Nuance. A Critical Reflection on Current Topics [nl] <i>Katrijn Maryns -- Department of Translation, Interpreting and Communication</i> Indicative price: € 0	6	UKV		A:1	180

3.2.10 Cluster Communication

[Subscribe to maximum 2 courses.](#)

Nr	Course	CRDT	Ref	MT1	Session	Study
1	A003001 Academic English <i>Geert Jacobs -- Department of Linguistics</i> Indicative price: € 0	3	UKV		B:1, A:2	90
2	A003107 Advanced Academic English <i>Geert Jacobs -- Department of Linguistics</i> Indicative price: € 0	3	UKV		A:1, B:2	90

3.2.11 Cluster Education

Subscribe to maximum 1 course.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	H002476 Powerful Learning Environments [nl] <i>Bram De Wever -- Department of Educational Studies</i> Indicative price: € 50	6			A:1	180
2	H002477 The Teacher within Class, School and Society [nl] <i>Melissa Tuytens -- Department of Educational Studies</i> Indicative price: € 55	6			A:2	180
3	H002478 The Student: Development and Motivation [nl] <i>Wim Beyers -- Department of Developmental, Personality and Social Psychology</i> Indicative price: € 75	6			A:1	180

3.2.12 Elective Courses Ghent University

No more than 6 course units from the study programmes of Ghent University (social courses or technical courses), including the [Ghent University Elective Courses](#). Subject to approval by the faculty.

4 Master's Dissertation 24 credits

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E091103 Master's Dissertation Indicative price: unknown	24		2	B:J	720

Programme related study costs

None

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

Learning materials

The prices stated are indicative and subject to fluctuations.
The list of learning materials per course unit can be found in the course sheets.