

Faculty of Engineering and Architecture  
Master of Science in Civil Engineering

Language of instruction: English

Programme version 11

## 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> <a href="#">Indicative price: unknown</a>	3		1	B:1	90
2	E040661 Structural Dynamics <i>Mia Loccufer -- Department of Electromechanical, Systems and Metal Engineering</i> <a href="#">Indicative price: € 8</a>	5		1	B:1	150
3	E045621 Groundwater and Contaminant Flow <i>Herman Peiffer -- Department of Civil Engineering</i> <a href="#">Indicative price: unknown</a>	4		1	B:1	120
4	E044311 Structural Stability <i>Robby Caspele -- Department of Structural Engineering and Building Materials</i> <a href="#">Indicative price: € 20</a>	6		1	A:1	180
5	E045860 Water Management and Environment <i>Tom De Mulder -- Department of Civil Engineering</i> <a href="#">Indicative price: € 26</a>	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> <a href="#">Indicative price: € 20</a>	6		1	A:2	180
7	E054820 Inland Waterways and Locks <i>Tom De Mulder -- Department of Civil Engineering</i> <a href="#">Indicative price: € 40</a>	6		1	B:2	180
8	E052210 Geotechnics <i>Mahya Roustaei Hossein Abadi -- Department of Civil Engineering</i> <a href="#">Indicative price: unknown</a>	5		1	B:2	150
9	E053560 Specialised Road Engineering and Mobility <i>Pieter De Winne -- Department of Civil Engineering</i> <a href="#">Indicative price: € 0</a>	5		1	B:2	150
10	E050923 Structural Reliability and Risk Analysis <i>Robby Caspele -- Department of Structural Engineering and Building Materials</i> <a href="#">Indicative price: € 15</a>	4		1	A:2	120
11	E054920 Coastal Engineering and Harbour Construction <i>Peter Troch -- Department of Civil Engineering</i> <a href="#">Indicative price: € 0</a>	6		2	B:1	180
12	E044821 Advanced Bridge and Tunnel Engineering <i>Hans De Backer -- Department of Civil Engineering</i> <a href="#">Indicative price: € 0</a>	6		2	A:1	180
13	E050100 Design of Civil Structures <i>Bart De Pauw -- Department of Civil Engineering</i> <a href="#">Indicative price: unknown</a>	3		2	B:2	90

## 2 Elective Courses

Subscribe to

- Either 20 credit units from 1 major from the following list.

- Either 18 credit units from 1 minor from the following list.  
Subject to approval by the faculty.

## 2.1 Major Dredging and Offshore Engineering

20 credits

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> <a href="#">Indicative price: € 1,020</a>	4		1	A:1	120
2	E055400 Coastal Hydrodynamics <i>Peter Troch -- Department of Civil Engineering</i> <a href="#">Indicative price: € 15</a>	3		2	A:1	90
3	E044671 Offshore Foundations <i>Bruno Stuyts -- Department of Civil Engineering</i> <a href="#">Indicative price: unknown</a>	4		2	A:1	120
4	E054680 Dredging: Techniques and Processes <i>Mahya Roustael Hossein Abadi -- Department of Civil Engineering</i> <a href="#">Indicative price: unknown</a>	5		2	A:2	150
5	E044666 Offshore Structures <i>Andreas Kortenhaus -- Department of Civil Engineering</i> <a href="#">Indicative price: € 0</a>	4		2	A:2	120

## 2.2 Major Construction Design

20 credits

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> <a href="#">Indicative price: € 15</a>	6		1	A:1	180
2	E044902 Conceptual Design <i>Bart De Pauw -- Department of Civil Engineering</i> <a href="#">Indicative price: unknown</a>	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> <a href="#">Indicative price: € 20</a>	3		2	A:1	90
4	E044930 Seismic Design <i>Hervé Degée -- Department of Structural Engineering and Building Materials</i> <a href="#">Indicative price: € 0</a>	3		2	A:2	90
5	E044631 Glass and Facade Structures <i>Jan Belis -- Department of Structural Engineering and Building Materials</i> <a href="#">Indicative price: € 15</a>	3		2	A:2	90

## 2.3 Minor Operations Management

18 credits

Subscribe to 18 credit units from the following list, with 6 credit units with reference a. Subject to approval by the faculty.

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> <a href="#">Indicative price: € 0</a>	6	a		A:1	180
2	E004255 Operations Research Models and Methods <i>El-Houssaine Aghezzaf -- Department of Industrial Systems Engineering and Product Design</i> <a href="#">Indicative price: € 0</a>	6			A:1	180
3	E060240 Quality Engineering and Industrial Statistics <i>Stijn De Vuyst -- Department of Industrial Systems Engineering and Product Design</i> <a href="#">Indicative price: € 50</a>	6			A:2	180
4	E076951 Engineering Economy <i>Sofie Verbrugge -- Department of Information Technology</i> <a href="#">Indicative price: € 60</a>	6			A:1	180

## 3 Elective Courses

Subscribe to:

- Either 12 credit units from 2 or 3 modules from the following list (in combination with 1 major)
  - Either 14 credit units from 2 or 3 modules from the following list (in combination with 1 minor)
- Subject to approval by the faculty.

At least 6 credit units of elective social courses and at least 6 credit units of technical courses.

### 3.1 Elective Courses Civil Engineering

Subscribe to no less than 6 credit units from the following list. Subject to approval by the faculty.

Nr	Course	CRDT	Ref	MT1	Session	Study
1	E052630 Prefabricated Concrete Constructions <i>Stijn Matthys -- Department of Structural Engineering and Building Materials</i> <a href="#">Indicative price: € 75</a>	3			A:1	90
2	E080830 Information Management in Architecture and Construction [nl, en] <i>Paulus Present -- Department of Architecture and Urban Planning</i> <a href="#">Indicative price: € 0</a>	3			A:2	90
3	E050720 Diagnosis and Repair of Buildings <i>Stijn Matthys -- Department of Structural Engineering and Building Materials</i> <a href="#">Indicative price: € 0</a>	3			A:1	90
4	E065480 Life Cycle Assessment of Materials and Structures <i>Nele De Belie -- Department of Structural Engineering and Building Materials</i> <a href="#">Indicative price: € 12</a>	3			A:2	90
5	E051540 Explosions and Industrial Fire Safety <i>Filip Verplaetsen -- Department of Structural Engineering and Building Materials</i> <a href="#">Indicative price: unknown</a>	6			A:1	180
6	E051610 Passive Fire Protection <i>Emmanuel Annerel -- Department of Structural Engineering and Building Materials</i> <a href="#">Indicative price: unknown</a>	3			A:1	90
7	E086621 Planning and Transition: Mobility <i>Koos Fransen -- Department of Civil Engineering</i> <a href="#">Indicative price: unknown</a>	3			A:1	90
8	E053620 Railroads [nl] <i>Jan Mys -- Department of Civil Engineering</i> <a href="#">Indicative price: unknown</a>	3			A:2	90
9	E055320 Ship Behaviour in Shallow and Confined Water <i>Guillaume Delefortrie -- Department of Civil Engineering</i> <a href="#">Indicative price: € 25</a>	3			A:2	90
10	E063671 Biomaterials and Tissue Engineering <i>Peter Dubruel -- Department of Organic Chemistry</i> <a href="#">Indicative price: unknown</a>	5			A:1	150
11	E063682 Biomechanics <i>Charlotte Debbaut -- Department of Electronics and Information Systems</i> <a href="#">Indicative price: € 0</a>	6			A:1	180
12	E092623 Modelling of Physiological Systems <i>Patrick Segers -- Department of Electronics and Information Systems</i> <a href="#">Indicative price: € 80</a>	5			A:2	150
13	E099400 Research Internship <i>Patrick Segers -- Department of Electronics and Information Systems</i> <a href="#">Indicative price: unknown</a>	6			A:J	180
14	E099400 Research Internship <i>Patrick Segers -- Department of Electronics and Information Systems</i> <a href="#">Indicative price: unknown</a>	3			B:J	90

### 3.2 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	Study
1	E099300 Industry Internship Engineering and Architecture [en, nl] <i>Patrick Segers -- Department of Electronics and Information Systems</i> <a href="#">Indicative price: unknown</a>	6			A:J	180
2	E098010 Integrated Portfolio [en, nl] <i>Hiep Luong -- Department of Telecommunications and Information Processing</i> <a href="#">Indicative price: € 50</a>	6			A:J	180
3	E098010 Integrated Portfolio [en, nl] <i>Hiep Luong -- Department of Telecommunications and Information Processing</i> <a href="#">Indicative price: € 50</a>	3			B:J	90

4	E037810	Safety of Electrical and Mechanical Installations [nl] <i>Jos Knockaert -- Department of Electromechanical, Systems and Metal Engineering</i> <a href="#">Indicative price: unknown</a>	3		A:2	90
5	E039060	Sustainable Energy and Rational Use of Energy <i>Jeroen Beeckman -- Department of Electronics and Information Systems</i> <a href="#">Indicative price: € 7</a>	4		A:2	120
6	E078310	Sustainable Use of Materials: Metals [nl] <i>Kim Verbeken -- Department of Materials, Textiles and Chemical Engineering</i> <a href="#">Indicative price: € 8</a>	3		A:1	90
7	E078320	Sustainable Use of Materials: Plastics and Derived Materials [nl] <i>Lode Daelemans -- Department of Materials, Textiles and Chemical Engineering</i> <a href="#">Indicative price: € 0</a>	3		A:2	90
8	E078010	Technology and Environment <i>Luc Martens -- Department of Information Technology</i> <a href="#">Indicative price: € 0</a>	3		A:1	90
9	E078752	Water and Air Quality Management <i>Joris Thybaut -- Department of Materials, Textiles and Chemical Engineering</i> <a href="#">Indicative price: € 0</a>	4		A:2	120
10	E092100	Biosystems [nl] <i>Pascal Verdonck -- Department of Electronics and Information Systems</i> <a href="#">Indicative price: unknown</a>	3		A:1	90
11	E075310	Ethics, Engineering and Society [nl] <i>Seppe Segers -- Department of Philosophy and Moral Sciences</i> <a href="#">Indicative price: unknown</a>	3		A:2	90
12	C004009	History and Philosophy of Sciences [nl] <i>Maarten Van Dyck -- Department of Philosophy and Moral Sciences</i> <a href="#">Indicative price: € 0</a>	3		A:1 <sup>a</sup>	90
13	E076320	The Information Society and ICT [nl] <i>Erik Mannens -- Department of Electronics and Information Systems</i> <a href="#">Indicative price: unknown</a>	3		A:2	90
14	A001900	Introduction to Psychology [nl] <i>Wim Notebaert -- Department of Experimental Psychology</i> <a href="#">Indicative price: unknown</a>	3		A:1	90
15	H001977	Coaching and Diversity [nl] <i>Elisabeth De Schauwer -- Department of Special Education</i> <a href="#">Indicative price: € 0</a>	3	UKV	A:J	90
16	A005503	Context and Nuance. A Critical Reflection on Current Topics [nl] <i>Stef Craps -- Department of Literary Studies</i> <a href="#">Indicative price: € 0</a>	6	UKV	A:1	180
17	E076450	Basic Entrepreneurship [nl] <i>Yannick Dillen -- Department of Marketing, Innovation and Organisation</i> <a href="#">Indicative price: unknown</a>	3	UKV	A:1	90
18	A005646	Introduction to Business Law [nl] <i>Diederik Bruloot -- Department of Interdisciplinary Study of Law, Private Law and Business Law</i> <a href="#">Indicative price: unknown</a>	3		A:1	90
19	E076460	Dare to Venture <i>Johan Verrue -- Department of Marketing, Innovation and Organisation</i> <a href="#">Indicative price: unknown</a>	4		A:2	120
20	E076471	Dare to Start <i>Wouter Haerick -- Department of Information Technology</i> <a href="#">Indicative price: unknown</a>	3		A:2	90
21	E076621	Principles of Law and Construction Law [nl] <i>Jelle Laverge -- Department of Architecture and Urban Planning</i> <a href="#">Indicative price: unknown</a>	3		A:1	90
22	E076951	Engineering Economy <i>Sofie Verbrugge -- Department of Information Technology</i> <a href="#">Indicative price: € 60</a>	6		A:1	180
23	E076431	Introduction to Entrepreneurship <i>Petra Andries -- Department of Marketing, Innovation and Organisation</i> <a href="#">Indicative price: € 33</a>	3		A:1	90

24	H002169	Powerful Learning Environments [nl] <i>Bram De Wever -- Department of Educational Studies</i> <a href="#">Indicative price: € 50</a>	6		A:1	180
25	H002196	Classroom Management and Reflection [nl] <i>Tijds Rotsaert -- Department of Educational Studies</i> <a href="#">Indicative price: € 50</a>	4		A:2	120
26	H002197	The Teacher within School and Society [nl] <i>Melissa Tuytens -- Department of Educational Studies</i> <a href="#">Indicative price: € 50</a>	4		A:1	120
27	H002198	Psychology of Adolescence [nl] <i>Wim Beyers -- Department of Developmental, Personality and Social Psychology</i> <a href="#">Indicative price: € 51</a>	4		A:1	120
28	F000083	Macroeconomics [nl] <i>Freddy Heylen -- Department of Economics</i> <a href="#">Indicative price: € 65</a>	6		A:1	180
29	H001010	Introduction Industrial Psychology [nl] <i>Bart Wille -- Department of Developmental, Personality and Social Psychology</i> <a href="#">Indicative price: € 45</a>	5		A:2	150
30	F000551	Business Skills <i>Mieke Audenaert -- Department of Marketing, Innovation and Organisation</i> <a href="#">Indicative price: € 46</a>	4		C:2	120
31	A003001	Academic English <i>Geert Jacobs -- Department of Linguistics</i> <a href="#">Indicative price: € 0</a>	3	UKV	B:1, A:2	90
32	E075800	Communication [nl] <i>Leen Pollefliet -- Department of Information Technology</i> <a href="#">Indicative price: € 68</a>	3		A:1	90

### 3.3 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 <a href="#">Indicative price: unknown</a>	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 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

## 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.