



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> Indicative price: unknown | 3 | | 1 | B:1 | 90 |
| 2 | E040661 | Structural Dynamics <i>Mia Loccufier -- 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 Caspee -- 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 Caspee -- 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 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> 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

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> 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 Caspela -- 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: € 15 | 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> Indicative price: € 0 | 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> Indicative price: € 0 | 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 |
| 4 | E076951 | Engineering Economy <i>Sofie Verbrugge -- Department of Information Technology</i> Indicative price: € 60 | 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> Indicative price: € 75 | 3 | | | A:1 | 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 | E050720 | Diagnosis and Repair of Buildings <i>Stijn Matthys -- Department of Structural Engineering and Building Materials</i> Indicative price: € 0 | 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> Indicative price: € 12 | 3 | | | A:2 | 90 |
| 5 | E051540 | Explosions and Industrial Fire Safety <i>Filip Verplaetse -- Department of Structural Engineering and Building Materials</i> Indicative price: unknown | 6 | | | A:1 | 180 |
| 6 | E051610 | Passive Fire Protection <i>Emmanuel Annerel -- Department of Structural Engineering and Building Materials</i> Indicative price: unknown | 3 | | | A:1 | 90 |
| 7 | E086621 | Planning and Transition: Mobility <i>Koos Fransen -- Department of Civil Engineering</i> Indicative price: unknown | 3 | | | A:1 | 90 |
| 8 | E053620 | Railroads [nl] <i>Jan Mys -- Department of Civil Engineering</i> Indicative price: unknown | 3 | | | A:2 | 90 |
| 9 | E055320 | Ship Behaviour in Shallow and Confined Water <i>Guillaume Delefortrie -- Department of Civil Engineering</i> Indicative price: € 25 | 3 | | | A:2 | 90 |
| 10 | E063671 | Biomaterials and Tissue Engineering <i>Peter Dubrule -- Department of Organic Chemistry</i> Indicative price: unknown | 5 | | | A:1 | 150 |
| 11 | E063682 | Biomechanics <i>Charlotte Debbaut -- Department of Electronics and Information Systems</i> Indicative price: € 0 | 6 | | | A:1 | 180 |
| 12 | E092623 | Modelling of Physiological Systems <i>Patrick Segers -- Department of Electronics and Information Systems</i> Indicative price: € 80 | 5 | | | A:2 | 150 |
| 13 | E099400 | Research Internship <i>Patrick Segers -- Department of Electronics and Information Systems</i> Indicative price: unknown | 6 | | | A:J | 180 |
| 14 | E099400 | Research Internship <i>Patrick Segers -- Department of Electronics and Information Systems</i> Indicative price: unknown | 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> Indicative price: unknown | 6 | | | A:J | 180 |
| 2 | E098010 | Integrated Portfolio [en, nl] <i>Hiep Luong -- Department of Telecommunications and Information Processing</i> Indicative price: € 50 | 6 | | | A:J | 180 |
| 3 | E098010 | Integrated Portfolio [en, nl] <i>Hiep Luong -- Department of Telecommunications and Information Processing</i> Indicative price: € 50 | 3 | | | B:J | 90 |

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

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

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 |
| 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 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.