GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2026-2027

Master's Dissertation (E091103)

Course size *(nominal values; actual values may depend on programme)*

Credits 24.0 **Study time 720 h**

Course offerings and teaching methods in academic year 2026-2027

A (Year)	Dutch	Gent	master's dissertation
B (Year)	English	Gent	master's dissertation

Lecturers in academic year 2026-2027

Offered in the following programmes in 2026-2027	crdts	offering
Bridging Programme Master of Science in Electrical Engineering(main subject Communication and Information Technology)	24	B
Bridging Programme Master of Science in Electrical Engineering(main subject Electronic Circuits and Systems)	24	B
Bridging Programme Master of Science in Operations Research Engineering(main subject Manufacturing and Supply Chain Engineering)	24	B
Bridging Programme Master of Science in Operations Research Engineering(main subject Transport and Mobility Engineering)	24	B
Bridging Programme Master of Science in Chemical Engineering	24	B
Bridging Programme Master of Science in Civil Engineering	24	B
Bridging Programme Master of Science in Computer Science Engineering	24	B
Bridging Programme Master of Science in Engineering Physics	24	B
Bridging Programme Master of Science in Engineering: Ships and Marine Technology	24	B
Bridging Programme Master of Science in Fire Safety Engineering	24	B
Bridging Programme Master of Science in Mechanical and Electrical Systems Engineering	24	A
Bridging Programme Master of Science in Sustainable Materials Engineering	24	B
Bridging Programme Master of Science in Urbanism and Spatial Planning	24	A
Master of Science in Electrical Engineering (main subject Communication and Information Technology)	24	B
Master of Science in Electromechanical Engineering(main subject Control Engineering and Automation)	24	A
Master of Science in Electromechanical Engineering(main subject Control Engineering and Automation)	24	B
Master of Science in Electromechanical Engineering(main subject Electrical Power Engineering)	24	A
Master of Science in Electromechanical Engineering(main subject Electrical Power Engineering)	24	B
Master of Science in Electrical Engineering (main subject Electronic Circuits and Systems)	24	B
Master of Science in Operations Research Engineering(main subject Manufacturing and Supply Chain Engineering)	24	B
Master of Science in Electromechanical Engineering(main subject Maritime Engineering)	24	A
Master of Science in Electromechanical Engineering(main subject Maritime Engineering)	24	B
Master of Science in Electromechanical Engineering(main subject Mechanical Construction)	24	A
Master of Science in Electromechanical Engineering(main subject Mechanical Construction)	24	B
Master of Science in Electromechanical Engineering(main subject Mechanical Energy Engineering)	24	A
Master of Science in Electromechanical Engineering(main subject Mechanical Energy Engineering)	24	B

Master of Science in Operations Research Engineering(main subject Sustainable Mobility Analytics)	24	B
Master of Science in Operations Research Engineering(main subject Transport and Mobility Engineering)	24	B
Master of Science in Biomedical Engineering	24	A
Master of Science in Biomedical Engineering	24	B
Master of Science in Chemical Engineering	24	A
Master of Science in Chemical Engineering	24	B
Master of Science in Civil Engineering	24	A
Master of Science in Civil Engineering	24	B
Master of Science in Computer Science Engineering	24	A
Master of Science in Computer Science Engineering	24	B
Master of Science in Electrical Engineering	24	A
Master of Science in Electromechanical Engineering	24	A
Master of Science in Engineering Physics	24	A
Master of Science in Engineering Physics	24	B
Master of Science in Engineering: Ships and Marine Technology	24	A
Master of Science in Engineering: Ships and Marine Technology	24	B
Master of Science in Fire Safety Engineering	24	B
Master of Science in Materials Engineering	24	A
Master of Science in Mechanical and Electrical Systems Engineering	24	B
Master of Science in Operations Research Engineering	24	A
Master of Science in Sustainable Materials Engineering	24	B
Master of Science in Urbanism and Spatial Planning	24	A

Teaching languages

English, Dutch

Keywords

master's dissertation, research report, research methods and techniques

Position of the course

The master's programme is completed with the master's dissertation. The master's dissertation is a workpiece in which the student applies advanced analytical and synthetic problem-solving skills to independently complete a research project successfully. The result reflects the student's general critical-reflective attitude and research mindset.
The master's dissertation contributes to the realisation of a number of desired programme competences (cf. http://www.ugent.be/ea/nl/onderwijs/administratie/Opleidingscompetenties/overzicht.htm).
The faculty's modalities for the master's dissertation are available via the faculty's website: http://www.ugent.be/ea/nl/faculteit/diensten/studentenadministratie/masterproef (in Dutch), http://www.ugent.be/ea/en/education/master-dissertation (in English)

Contents

The topic and content of the master's dissertation are proposed by the supervisor, possibly in collaboration with the industry. Student can also formulate a topic. Each topic is reviewed by the programme and assigned according to the faculty's procedure, as outlined in the faculty's master's dissertation regulations (https://www.ugent.be/ea/nl/faculteit/studentenadministratie/masterproef).
The master's dissertation is the final project that includes the development of the topic (literature study, critical formulation of the research question, documentation of research, experiments, designs, simulations, test setups, results, conclusions, extended abstract, etc.) and a presentation with an oral defense. Interim reporting is also expected.

Initial competences

The student has the competencies of a Bachelor of Science in Engineering, specifically advanced knowledge and understanding of engineering sciences in general, and of the discipline/specialization of the programme in particular.

Final competences

1 Independently search for relevant and up-to-date information and critically process it.
2 Formulate a research question, starting from a complex, scientific problem within the own programme or specialization.
3 Apply a creative and/or innovative, appropriate research methodology.
4 Applying advanced knowledge of one's own engineering discipline in an integrated manner to the problem at hand.
5 Apply problem-solving thinking under uncertain and/or conflicting constraints, with attention to the appropriate level of abstraction.
6 Critically interpret and validate own results, write them down, summarize them, and clearly communicate them orally in English, while substantiating the decisions made.
7 Work and collaborate in a professional manner.
8 Reflect on the own research topic and chosen methodology from various perspectives such as sustainability, international context, and ethical implications.
9 Critically reflect on the own thinking and actions, handle feedback and the limits of the own competencies in a conscious and responsible manner.
10 Scientific integrity and ethical conduct.

Conditions for credit contract

This course unit cannot be taken via a credit contract

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Master's dissertation

Study material

None

References

Course content-related study coaching

The supervision of the master's dissertation throughout the year is carried out by the dissertation supervisors. The dissertation advisory committee consists of at least two members, including one or more supervisors. The conditions and modalities for the composition of the committee are determined and clarified in the faculty's master's dissertation regulations.

The student and the dissertation advisory committee consult regularly (at least three advisory meetings spread out over the course of the master's dissertation process) about the substantive, formal, and practical aspects. The student reports regularly on the progress made, and the dissertation advisory committee provides regular interim feedback.

The supervision process is agreed upon in mutual consultation, as specified and clarified in the faculty's master's dissertation regulations.

Assessment moments

continuous assessment

Examination methods in case of periodic assessment during the first examination period

Examination methods in case of periodic assessment during the second examination period

Examination methods in case of permanent assessment

Professional practice, Oral assessment, Participation, Assignment

Possibilities of retake in case of permanent assessment

examination during the second examination period is possible in modified form

Extra information on the examination methods

The student is evaluated on the process, the product, and the master's dissertation exam.

Both the dissertation advisory committee and the assessment committee are responsible for the assessment:

- The process assessment is done by the dissertation advisory committee and focuses on interpersonal and intrapersonal competencies;
- The product assessment is done by the dissertation advisory committee and the assessment committee and includes, among other things, the technical-scientific aspects of the master's dissertation (master's dissertation and/or practical realization)
- The master's dissertation exam (presentation and answering questions) is assessed by the assessment committee.

The student, together with the promotor and/or supervisor, is responsible for ensuring that at least three advisory meetings take place throughout the master's dissertation process. Participation in these meetings is a prerequisite for submitting the written thesis.

Calculation of the examination mark

The master's dissertation is evaluated by means of an electronic evaluation form in Plato and a descriptive assessment framework ('rubric'), available on the faculty's website.

To determine the final grade, indicative weighting factors are used (30% process, 30% product, 40% exam) that reflect the relative importance of the three assessment components. For each assessment component, it is determined to what extent the student has achieved the associated competencies. However, the final grade is not merely a weighted average: the master's dissertation defense is essential to verify that the student can account for the content and development of the master's dissertation and that the work meets the requirements of academic integrity. Furthermore, the assessment committee and the dissertation advisory committee may jointly decide by consensus to award a failing grade for the entire master's dissertation to a student who fails one of the three assessment components.

The final grade must always be accompanied by a written explanation based on the final competencies.