GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2024-2025

Master's Dissertation (E091106)

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

Credits 30.0 **Study time 900 h**

Course offerings and teaching methods in academic year 2025-2026

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

Lecturers in academic year 2025-2026

Offered in the following programmes in 2025-2026	crdts	offering
Bridging Programme Master of Science in Photonics Engineering	30	A
Master of Science in Photonics Engineering	30	B
Master of Science in Photonics Engineering	30	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 Integratively apply advanced, theoretically in-depth knowledge of the own engineering discipline to a given problem.
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 Act with 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 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

Oral assessment, Assignment

Possibilities of retake in case of permanent assessment

examination during the second examination period is possible

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 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.

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.

The three evaluation categories are weighted in the final score as follows:

- 30% of the marks: process evaluation
- 30% of the marks: product evaluation
- 40% of the marks: master's dissertation exam

If the score on one of the three evaluation categories is 8/20 or less than 8/20, the dissertation advisory committee and the assessment committee can conclude, by consensus, that the student can no longer pass the entire master's dissertation. If that is the case, and if the final mark according to the calculation percentages is 10/20 (or more), the final mark will be reduced to the highest failing mark, 9/20. If these special conditions apply, a specific argumentation and a fair justification is required based on the final competences of the master's dissertation.