GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2024-2025

Hardware-design Project (E033702)

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

Credits 6.0 **Study time 180 h**

Course offerings in academic year 2024-2025

A (semester 2)	English	Gent
B (semester 2)	Dutch	Gent

Lecturers in academic year 2024-2025

Tzouvadaki, Ioulia	TW06	lecturer-in-charge

Offered in the following programmes in 2024-2025	**crdts**	**offering**
Bridging Programme Master of Science in Electrical Engineering(main subject Communication and Information Technology)	6	A
Bridging Programme Master of Science in Electrical Engineering(main subject Electronic Circuits and Systems)	6	A
Master of Science in Electrical Engineering (main subject Communication and Information Technology)	6	A
Master of Science in Electrical Engineering (main subject Electronic Circuits and Systems)	6	A
Master of Science in Computer Science Engineering	6	A
Master of Science in Electrical Engineering	6	B

Teaching languages

English, Dutch

Keywords

hardware design of an electronic system, the components, or the communication between them, realisation, evaluation, debugging

Position of the course

This course is aimed at the effective application, in a team context, of the design principles taught in the compulsory courses, and of the detailed knowledge acquired in the elective courses. It should enable the student to make a design in accordance with the main subject that the student has chosen and his or her choices in the core curriculum. Realisation of the design means actual hardware design, fabrication, evaluation and debugging. As the course is followed by students from the programmes Electrical Engineering (options ECS and CIT) as well as Computer Science Engineering (Embedded Systems), projects are offered out of which the respective students can make an appropriate choice. 1 project for each group of 3 to 4 students is foreseen.

Contents

Electronic Design Project

Initial competences

Knowledge from the core curriculum of the programme (or equivalent knowledge):
For the programme Electrical Engineering:
- Antennas and propagation
- Electromagnetically-aware high frequency design
- Design methodology for FPGAs
- VLSI technology and design (only for students ECS)
- Robotics (only for students CIT)

For the programme Computer Science Engineering:
- Electrical Circuits and Networks

- Digital Electronics
- Design methodology for FPGAs

Final competences

To transform theoretical knowledge from other courses into practical applications.

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Study material

Type: Project

Name: Project on Hardware design work in groups
Indicative price: Free or paid by faculty
Optional: no

References

Course content-related study coaching

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

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

During semester: graded project reports; graded oral presentation. Frequency:
every week.

Calculation of the examination mark