GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2025-2026

Ship Design Project (E055090)

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

Credits 6.0 **Study time 180 h**

Course offerings in academic year 2026-2027

A (Year)	English	Gent
B (Year)	Dutch	Gent

Lecturers in academic year 2026-2027

Lataire, Evert	TW15	lecturer-in-charge
Couwenberg, Mark	TW15	co-lecturer
Delefortrie, Guillaume	TW15	co-lecturer

Offered in the following programmes in 2026-2027	**crdts**	**offering**
Bridging Programme Master of Science in Engineering: Ships and Marine Technology	6	A
Master of Science in Electromechanical Engineering(main subject Maritime Engineering)	6	B
International Master of Science in Advanced Design of Sustainable Ships and Offshore Structures	6	A
Master of Science in Engineering: Ships and Marine Technology	6	B
Master of Science in Engineering: Ships and Marine Technology	6	A

Teaching languages

English, Dutch

Keywords

lines plan, stability, seakeeping, powering, manoeuvring, midship construction

Position of the course

In this course a ship is designed starting from a set of requirements. All necesary design rules are checked from a practical approach, as in applying the techniques taught in the courses on Marine Hydrostatics and Stability, Resistance and Propulsion, Manoeuvring and Seakeeping and Ships and Marine Structures. The design should comply with the actual set of rules set forth by IMO and IACS.

Contents

- Ship Design: aims, selection of ship type, size, contract discussion
- Lines plan
- Hydrostatics and stability computation
- Seakeeping assessment
- Damage stability computation
- Resistance determination
- Propeller and rudder design
- Design of the midship section
- Manoeuvring simulation

Initial competences

The course is founded upon the competences acquired (or followed in conjunction) of the courses on Marine Hydrostatics and Stability, Ship Resistance and Propulsion, Ship and Marine Structures and Ship Manoeuvring and Seakeeping Behaviour of Floating Structures

Final competences

1 Be able to design a ship starting from a set of requirements

2 Ability to check whether a given design fulfills present (international) rules and take appropriate action if failing to do so

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

Group work, Seminar, Practical, Independent work

Study material

Type: Software

Name: Ship design: software applications
Indicative price: Free or paid by faculty
Optional: no
Available on Athena : Yes
Online Available : No
Available in the Library : No
Available through Student Association : No
Usability and Lifetime within the Course Unit : regularly
Usability and Lifetime within the Study Programme : regularly
Usability and Lifetime after the Study Programme : not

References

Course content-related study coaching

Practical sessions are organized on an averaged two weekly basis. Questions can be asked at the session or on Ufora after the session.

Assessment moments

end-of-term and continuous assessment

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

Presentation, Assignment

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

Presentation, Assignment

Examination methods in case of permanent assessment

Participation

Possibilities of retake in case of permanent assessment

examination during the second examination period is possible

Extra information on the examination methods

Participation to the practical sessions is desired. Full participation is awarded with a 10/10 score for participation. For every missed session without valid reason (medical certificate or e-mail from other professor requiring your presence) 1 point will be deducted. The minimal score is 0/10.
A project report has to be delivered. A point is deducted from the project report mark per 24h delay without valid reason (medical certificate). The minimal score of the project report is 0/20. No assistance is provided after May 15.
The report will be defended during an oral presentation in the examination period.

Calculation of the examination mark

Participation: 10%
Project report: 40%
Oral presentation: 50%

- The student can only pass the entire course if a mark of at least 5/20 is obtained for the project report and for the oral presentation. If this condition is not met the final mark is the minimum of 9/20 and the above mentioned weighted result.