

# Course Specifications

From the academic year 2016-2017 up to and including the

## Introduction to Maritime Technology (partim) (E055044)

Course size (nominal values; actual values may depend on programme)  
Credits 4.0 Study time 120 h Contact hrs 37.5 h

### Course offerings and teaching methods in academic year 2018-2019

Offering	Language	Teaching Methods	Hours
A (semester 1)	English	seminar: coached	15.0 h
		exercises	
B (semester 1)	Dutch	lecture	22.5 h
		seminar: coached	15.0 h
		exercises	
		guided self-study	22.5 h

### Lecturers in academic year 2018-2019

Vantorre, Marc	TW15	lecturer-in-charge
Delefortrie, Guillaume	TW15	co-lecturer

### Offered in the following programmes in 2018-2019

Programme	crdts	offering
<a href="#">Bridging Programme Master of Science in Civil Engineering</a>	4	B
<a href="#">Master of Science in Civil Engineering</a>	4	B
<a href="#">Master of Science in Civil Engineering</a>	4	A

### Teaching languages

Dutch, English

### Keywords

Ships, shipping, ship stability, ship propulsion, ship motions

### Position of the course

Introduction to the maritime world, providing basic information on characteristics, construction, stability, propulsion and motions of ships.

### Contents

- Shipping as part of the logistics chain: The role of shipowners, shipyards and classification societies.
- General description of the ship as a means of transport or as an implement.: Function and short description of some ship types: cargo ships, dredgers, tugs,...
- Ship structures: materials and construction systems.
- Hydrostatics and stability of floating structures: background; influence of free liquid surfaces and of hanging loads.
- Propulsion of ships (introduction): ship resistance; propulsion methods; propulsion machinery.
- Ship maneuvering by means of rudders and thrusters (introduction): fundamentals; standard maneuvers; maneuvering simulation; maneuvering in restricted waters.
- Motions of ships in waves (introduction): fundamentals; motions in navigation channels; forces on and motions of moored ships.

### Initial competences

Specific elements from the mathematics and physics courses from the bachelor's

### Final competences

- 1 Gain insight into hydrostatics and stability of floating structures.
- 2 Get acquainted with professional terminology concerning types, external characteristics, structure and primary members of maritime constructions.
- 3 Distinguish the most important physical causes of a ship's resistance. Reason out the most important parameters on which a ship's resistance depends. Define and

- recognise the most usual technologies used for a ship's propulsion.
- 4 Reason out the manoeuvring behaviour of a ship. Distinguish the most important characteristics of a ship's steering equipment (rudder). Define the main techniques used to determine and evaluate a ship's manoeuvring behaviour.
  - 5 Get acquainted with the specific hydrodynamic behaviour of a ship in shallow and confined navigation areas.
  - 6 Give an explanation for the dynamic behaviour of a floating structure in waves. Be able to use professional terminology with respect to the behaviour of floating structures in waves.
  - 7 Describe the main actors in the shipping world.
  - 8 Analyse specific problems concerning hydrostatics and stability of a simple floating structure.
  - 9 Execute hydrostatic calculations and stability calculations for a pontoon by means of specialised software.

#### 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

Guided self-study, lecture, seminar: coached exercises

#### Learning materials and price

Syllabus in English, price 16 EUR.

#### References

- Scheepskennis (K. van Dokkum, Dokmar, Delfzijl 2001)

#### Course content-related study coaching

#### Evaluation methods

end-of-term evaluation and continuous assessment

#### Examination methods in case of periodic evaluation during the first examination period

Open book examination, oral examination

#### Examination methods in case of periodic evaluation during the second examination period

Open book examination, oral examination

#### Examination methods in case of permanent evaluation

Report

#### Possibilities of retake in case of permanent evaluation

examination during the second examination period is possible in modified form

#### Extra information on the examination methods

During examination period: oral closed-book exam, written preparation; written open-book exam. During semester: graded project reports.

#### Calculation of the examination mark

Oral closed-book exam during examination period: 50%

Written open-book exam during examination period: 25%

Project reports during semester: 25%.

A student can only pass if he/she has participated to the three parts.