Studiefiche

Vanaf academiejaar 2015-2016

Cursusomvang (nominale waarden; effectieve waarden kunnen verschillen per opleiding)
Studiepunten 6.0    Studietijd 180 u    Contacturen 48.0 u

Aanbodssessies in academiejaar 2017-2018
A (semester 2)    Engels

Lesgevers in academiejaar 2017-2018
De Baere, Kris    103879    Verantwoordelijk lesgever
Vantorre, Marc    TW15    Medelesgever
Verstraalen, Helen    103879    Medelesgever

Aangeboden in onderstaande opleidingen in 2017-2018
stptn    aanbodssessie
Master of Science in Technology for Integrated Water Management    6    A

Onderwijsstalen
Engels

Trefoorden

Situering
The objective of this module is to demonstrate the impact of ships and shipping business on the world water management.

Inhoud
Introduction to shipping: (4 hours) (AMA + UGent)
• Definition of ship; administrative, juridical, technical, ...
• Ship types and dimensions
• Ship structure and layout, technical description of the main parts
• Introduction to ship strength and stability

Shipping Channels and Navigation areas (4 hours) (UGent) Water areas required for safe and efficient shipping traffic
• Use of water as a means of transport: approach channels, rivers, canals, harbours, anchor areas,
• Required water depth of navigation areas (squat, motions in waves, nautical bottom issues in muddy areas, tidal windows)
• Required width and layout of navigation areas o Introduction to ship manoeuvring
o Width of approach channels based on generally accepted guidelines (e.g. PIANC)
o Simulation techniques for waterways design (including visit to Flanders Hydraulics Research)
• Locks: water consumption, salt water intrusion (case: Panama Canal)
• Inland shipping

Ships exploitation: (2 hours) (AMA)
Relation ship - shipping company, Charter parties, Liners – tramping, Insurance - P&I, Captains statute

Legislation and shipping: (2 hours) (AMA)
International legislation: IMO
IMO conventions and flag state national legislation
Conflict between territorial sea and flag state
Classification Societies and IACS

(Goedgekeurd)
Major International conventions: (2 hours) (AMA)
SOLAS, LLC, Tonnage, ISPS, STCW, MARPOL, GMDSS, SAR, IMDG...

MARPOL and related items (20 hours) (AMA)
Oil pollution - Chemical pollution
History of tankers; Pollution by hydrocarbons & chemicals: fate and impact; Effect of hydrocarbons & chemicals on marine life; Pollution response (on board and ashore); Operational - accidental pollution; Tank cleaning methods; Double hull - OPA ODE equipment; GESAMP hazard profiles

Sewage and garbage on board
Production of sewage and garbage on board; Problem to the marine environment caused by sewage and garbage; Storage of sewage and garbage on board; Treatment of sewage and garbage on board

Air pollution:
Production of pollutants on board; Problem of air pollution by ships; Treatment - limitation of pollutants

Ballast water management:
Ballast water: what it is and why it is used; Ballast water problem - invasive species; Solutions: ballast water exchange - ballast water treatment; IMO - BBC movie: invaders of the sea

Anti fouling:
Fouling: what it is and what is the problem; Anti fouling: historical problem; New solutions: epoxy paints, hard coatings

Fresh water on board:
Production; Use; Recycling; Slob tanks; Equipment

Ship recycling + Green passport: (Provisional)
Wastes; Water pollution; Inventory

Visits: (14 hours) (AMA + UGent)
Subject to availability: HZS, Marpobel, Ships terminal, Antwerp ship repair, VTS, Flanders Hydraulics Research

Begincompetenties
*General
None
*Sequentially
Module 1: Global water problems and integrated water management
Module 2: Integrated assessment of water and sediment quality

Eindcompetenties
1 • Have a general overview of a ship and the shipping business in the maritime world
2 • Understand the relation between national and international legislation and shipping
3 • Know the importance of the MARPOL and related conventions
4 • Have a basic knowledge about the use and production of fresh water on board
5 • Have a basic knowledge concerning ship recycling
6 • Have a basic knowledge concerning horizontal and vertical dimensioning of navigation areas
7 • Understand the effects of confined navigation areas on ship behaviour.

Creditcontractvoorwaarde
Toelating tot dit opleidingsonderdeel via creditcontract is mogelijk mits gunstige beoordeling van de competenties

Examencontractvoorwaarde
Dit opleidingsonderdeel kan niet via examencontract gevolgd worden

Didactische werkvormen

Leermateriaal
Teachers syllabus

Referenties
• K. VAN DOKKUM, Ship knowledge / a modern encyclopaedia, Enkhuizen 2003
• MARPOL 73/78 and amendments
• www.imo.org
• Marine Pollution, Geert Potters, bookboon.com
• PIANC Guidelines: Design of channels and fairways

(Goedgekeurd)
Vakinhoudelijke studiebegeleiding

Evaluatiemomenten
periodegebonden evaluatie

Evaluatievormen bij periodegebonden evaluatie in de eerste examenperiode
Schriftelijk examen met meerkeuzevragen, schriftelijk examen
Evaluatievormen bij periodegebonden evaluatie in de tweede examenperiode
Schriftelijk examen met meerkeuzevragen, schriftelijk examen
Evaluatievormen bij niet-periodegebonden evaluatie

Tweede examenkans in geval van niet-periodegebonden evaluatie
Niet van toepassing

Eindscoreberekening

(Goedgekeurd)