



Course syllabus

Faculty of Technology

Kalmar Maritime Academy

1TP71K Lasthantering; lastberäkningar och lastrumsklimat, 5 högskolepoäng

Cargo handling; Cargo Calculations and Cargo hold Climate, 5 credits

STCW reference

Sektion A-II/1, A-II/2

Subject Group

Other Subjects within Technology

Level of classification

First Level

Progression

G1N

Date of Ratification

Approved 2017-12-18

Revised 2022-04-05 by Faculty of Technology. Revision of course literature

The course syllabus is valid from autumn semester 2022

Prerequisites

General entry requirements and Mathematics 2a / 2b / 2c, Physics 1b1 / 1a or Mathematics B, Physics A (Field-specific entry requirements 7/A7). Physics A, Physics 1b1/1a can be replaced by Science studies 2 or Deck Officer Training Course, Class VII 40 credits.

Objectives

Proficiency and comprehension

By the end of this course, students will be able to:

- describe different stowing technics during break bulk operations
- describe general properties for chilled, frozen and hygroscopic commodities
- describe the safe use of cargo handling gear
- describe the principals for inspecting cargo during loading, discharge and voyage

Skills and abilities

By the end of this course, students will be able to:

- plan and produce a general stowage plan for break bulk cargo
- calculate and establish cargo intake, draught, trim and stability

Content

- The use of deadweight scale
- handling and stowage of break bulk incl. project cargo such as heavy objects on vessels
- preparations prior to loading and discharge of break bulk
- different types and establishing of stowage plans
- stability calculations for different cargo conditions
- general construction, labeling and maintenance of lifting appliances
- the properties of hygroscopic commodities
- the properties of chilled and frozen commodities
- heat balance in cargo holds
- cargo hold climate, ventilation and its effect on the cargo during the voyage
- the use of Mollierdiagram, tables and instruments to establish air properties

Type of Instruction

Instruction consists of lectures and exercises.

Examination

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).

Knowledge assessment takes place through individual written exam and through obligatory assignments. In order to receive the grade Pass with distinction, it must be obtained on the written exam.

Course Evaluation

During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed.

Required Reading and Additional Study Material

House, David J. *Cargo work for maritime operations*, seventh edition. Elsevier Butterworth-Heinemann, (200 pages)

van Dokkum, Klaas, et al. *Ship stability*. DOKMAR Maritime Publishers BV, latest edition, (approximately 176 pages)

van Dokkum, Klaas. *Ship Knowledge: Ship Design, Construction and Operation*. DOKMAR Maritime Publishers BV, latest edition, (approximately 150 of 423 pages).

van Dokkum, Klaas, et al. *Ship stability Hydrostatic Particulars Delftship and Elandsgracht*. DOKMAR Maritime Publishers BV, latest edition, (88 pages)