Linnæus University

Jnr: 2021/3743-3.1.2.2

Course syllabus

Faculty of Technology
Kalmar Maritime Academy

1SJ100 Varför kolliderar fartyg? En introduktion till sjösäkerhet i teori och praktik, 7,5 högskolepoäng

Why do ships collide? An introduction to maritime safety in theory and practice, 7.5 credits

Main field of study
Maritime Science

Subject Group
Shipping

Level of classification
First Level

Progression
G1N

Date of Ratification
Approved by Faculty of Technology 2021-10-12
The course syllabus is valid from spring semester 2022

Prerequisites
General entry requirements for university studies.

Objectives

Proficiency and comprehension
Upon completion of the course, the student should be able to

- A.1 state common ship types and briefly describe their areas of usage and describe the composition of the Swedish merchant fleet
- A.2 describe the overall function, usage and limitation of a marine radar
- A.3 describe the obligations and rights of ships regarding the International Regulations for preventing Collisions at Sea, Part A and B
- A.4 describe the interplay between people, technology, organization (MTO) and how it can be used to analyze accidents.
- A.5 account for common factors that may contribute to ship accidents.

Skills and abilities
Upon completion of the course, the student should be able to

- B.1 use basic ship terminology
- B.2 use methods for determining a ship's position and assess traffic situations using radar and manual plotting
- B.3 apply the obligations and rights of ships regarding the International Regulations for preventing Collisions at Sea, Part A and B
- B.4 analyse shipping accidents from an MTO perspective in order to explain

- causes and recommend solutions.

Content

The course provides an insight into the shipping industry and an introduction to some of the factors that often contribute to ships colliding.
The course contains:

- Shipping and ship terminology
- Key figures in Swedish shipping
- The function, use and limitation of radar equipment
- Relative and true motion and different radar displays
- Methods for determining a ship's position and manual plotting for safe navigation using radar
- International Regulations for preventing Collisions at Sea
- The interaction between man, technology, and organisation (MTO)
- Challenges when abandoning a ship
- Review of accident reports

Type of Instruction

When the course is offered as a distance course, there are no physical meetings; however, there are mandatory digital elements. A web-based learning platform is used, and therefore the student is required to have access to a computer with Internet connection, web browser, webcam and PDF reader.

The teaching consists of lectures, seminars, and individual assignments.

Examination

The examination of the course is divided as following:

Code	Appellation	Grade	Credits
2201	Oral exam	U/G	1.50
2202	Seminars	U/G	3.00
2203	Written report	U/G/VG	3.00

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).
The expected objectives must be achieved in order to pass the course. In order to receive the grade Pass with Distinction, that grade must be obtained on the written report.

Re-examination is given according to Local rules for courses and examination at the basic level and advanced level at Linnaeus University.

If the university has determined that a student has the right to special educational support on the basis of a disability, the examiner has the right to give an adapted test or allow the student to perform the test in an alternative way.

Objectives achievement

The examination parts are linked to the learning outcomes as follows:

Goal	2201	2202	2203
A.1		✓	
A.2	✓		

A.3	✓		
A.4		✓	
A.5		✓	✓
B.1		✓	✓
B.2	✓		
B.3	✓	✓	✓
B.4		✓	✓

Course Evaluation

During the implementation of the course or in close conjunction with the course, a course evaluation is to be carried out. Results and analysis of the course evaluation are to be promptly presented as feedback to the students who have completed the course. Students who participate during the next course instance receive feedback at the start of the course. The course evaluation is to be carried out anonymously.

Required Reading and Additional Study Material

Mandatory literature

Elinder, Mikael, & Erixson, Oscar (2012). *Gender, social norms, and survival in maritime disasters. Proceedings of the National Academy of Sciences of the United States of America*, 109, 13220-13224.

Erixson, Oscar, & Elinder, Mikael (2012). *Rädde sig den som kan! Ekonomisk Debatt*, 40(7), 26-35.

Grech, Michelle, Rita, Koester, Thomas & Horberry, Tim (2008). *Human Factors in the Maritime Domain*. Boca Raton: Taylor & Francis. Kapitel 1 (32 pages)

Hetherington, Catherine, Flin, Rhona, & Mearns, Kathryn (2006). *Safety in shipping: The human element. Journal of Safety Research*, 37(4), 401-411.

Moscow, Alvin (2018). Collision Course: *The Classic Story of the Collision of the Andrea Doria and the Stockholm*. Open Road Media. ISBN 9781504049344. (311 pages)

Schröder-Hinrichs, Jens-Uwe, Hollnagel, Erik, & Baldauf, Michael (2012). From Titanic to Costa Concordia—a century of lessons not learned. *WMU Journal of Maritime Affairs*, 11(2), 151-167.

TSFS (2009). Transportstyrelsens föreskrifter och allmänna råd om sjövägsregler. TSFS 2009:44, Transportstyrelsen.

Wallin, Börje (2018). *Radar i skärgården*. Jure Förlag. ISBN 9789172237445. (91 pages)

A number of accident investigation reports, e.g. from the Swedish Accident Investigation Authority or the Marine Accident Investigation Branch (MAIB), selected in consultation with course instructor.

Reference literature

Babicz, Jan (2015). W*ärtsilä Encyclopedia of Ship Technology*. Wärtsilä Corporation.

Kecklund, Lena & Sandblad, Bengt (2021). *Den (o)mänskliga faktorn: MTO: digitalisering och automatisering för säkerhet och hållbarhet*. Lund: Studentlitteratur. ISBN 9789144140834.

Van Dokkum, Klaas (2020). *Ship Knowledge* [any edition]. Dokmar Maritime

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