

Contents of the courses

1. The First Course of Shipping and Shipbuilding

Fee: JPY10,000

Duration: Approximately 2 hours

Who should attend: Employees of the maritime industry

Table of contents:

- Chapter 1 Basics of maritime industries
- Chapter 2 Shipping and shipbuilding business
- Chapter 3 Various types of cargo ships
- Chapter 4 Shipbuilding process
- Chapter 5 Systems and equipment 1
- Chapter 6 Systems and equipment 2
- Chapter 7 Legislation applicable to ships
- Chapter 8 Performance of ships

Summary:

For your good start in the shipping and shipbuilding industries, you will learn basics of relevant knowledge useful for progressive development in your engagement in the industry.

2. The Step-up Course on Shipping and Shipbuilding - Stability Course

Fee: JPY10,000 /person

Duration: Approximately 1 hour

Who should attend: Engineers of shipyard

Table of contents:

- Chapter 1 Physics on stability of ships
- Chapter 2 Ships even in damage remain afloat and stabilized

Summary:

Once a maritime accident occurs, it not only leads to the loss of lives and properties but also inflicts significant damage upon the marine environment. In order to prevent such maritime accidents and minimize the resulting damages, regulations concerning stability are applied to newly constructed

vessels. In this E-Learning course that we offer, aimed primarily at individuals involved in ship planning, design, or operation, we comprehensively explain fundamental knowledge about the stability of ships. This includes the principles of buoyancy and stability at work in ships, as well as the content of rules pertaining to stability in both undamaged and damaged scenarios. The course content will be conveyed through videos, animations, and other user-friendly mediums, making it easily understandable.

3. The Step-up Course on Shipping and Shipbuilding - Propulsive Performance Course

Fee: JPY10,000 /person

Duration: Approximately 1.5 hours

Who should attend: Engineers of shipyard

Table of contents:

Chapter 1 Ship propulsion and efficiency

Chapter 2 Hull resistance and performance design

Chapter 3 Performance design and its tools

Summary:

In the maritime industry, there is significant attention on the urgent challenge of reducing greenhouse gas (GHG) emissions. One key technology for achieving this is the enhancement of ship propulsion performance. However, this technology is highly specialized and can be difficult to comprehend. In the E-Learning course that we are offering, intended for not only naval architects but also individuals requiring knowledge about ship performance, we provide a comprehensive understanding of ship design. This encompasses topics ranging from the principles of propellers to the influence of hull forms and energy-saving appendages on performance. Using videos of water tank tests and Computational Fluid Dynamics (CFD), we will deliver explanations in a clear and understandable manner.

4. The Step-up Course on Shipping and Shipbuilding - Hull Structure and Strength Course

Fee: JPY20,000 (currently less than USD 200.00)/person

Duration: Approximately 2.5 hours by video with narration

Who should attend: Superintendents, Engineer

Table of contents:

- Chapter 1 How to keep a ship from breaking
- Chapter 2 Forces acting on ships (Loads and responses)
- Chapter 3 Forces a ship can withstand (Strength)
- Chapter 4 Assessment of ship's structural integrity
- Chapter 5 The social responsibility of ClassNK

Summary:

A ship is a massive structure designed to safely transport large quantities of cargo even in rough sea conditions. Designing and constructing this structure requires a wealth of knowledge and experience. In the E-Learning course that we are offering, primarily aimed at design engineers, construction supervisors, and young professionals, we provide a clear and comprehensible explanation. From understanding how ships remain intact to the fundamental knowledge of loads and structural responses required for strength assessment, the course covers it all using videos and animations. Additionally, we introduce statistical data and several case studies related to ship hull damage, and showcase the efforts of classification societies to mitigate hull damage.

5. Maritime Cyber Security Onboard Basic Course – for Crews and Officers –

Fee: JPY10,000

Duration: Approximately 30 min by video with narration

Who should attend: Crew members

Table of contents:

- Chapter 1 Cyber Attacks
- Chapter 2 SecureUse of E-Mail
- Chapter 3 Secure Use of Cloud Services
- Chapter 4 Secure Use of Personal Devices
- Chapter 5 Secure Use of ID and Password
- Chapter 6 SecureUse of External Storage Media

Summary:

As ships become "smarter" and the further development of maritime industry is expected, the risks of unauthorized system intrusions, information leaks, and data falsification due to cyber-attacks are increasing accordingly. Under

these circumstances, the first step to prevent cyber-attacks on ship systems is to acquire a sound knowledge of cyber security for those who are involved in ship operations.

6. Maritime Cyber Security Onboard Advanced Course -for Responsible Officers-

Fee: JPY15,000 (currently less than USD 150.00)/person

Duration: Approximately 1 hour by video with narration

Who should attend: Responsible person(s) for IT system on board

Table of contents:

- Chapter 1 Cyber Attacks
- Chapter 2 SecureUse of E-Mail
- Chapter 3 Secure Use of Cloud Services
- Chapter 4 Secure Use of Personal Devices
- Chapter 5 Secure Use of ID and Password
- Chapter 6 SecureUse of External Storage Media
- Chapter 7 Malware
- Chapter 8 The Signs of Cyber Attacks
- Chapter 9 Upgrade and Software Maintenance
- Chapter 10 Remote Access Security
- Chapter 11 Administrative Rights
- Chapter 12 Internal Fraud
- Chapter 13 Disposal of Used Equipment, including Data Erasure

Summary:

As ships become "smarter" and the further development of maritime industry is expected, the risks of unauthorized system intrusions, information leaks, and data falsification due to cyber-attacks are increasing accordingly. Under these circumstances, the first step to prevent cyber-attacks on ship systems is to acquire a sound knowledge of cyber security for those who are involved in ship operations.

7. Maritime Cyber Security Course – CSMS development –

Fee: JPY10,000/person

Duration: Approximately 1 hour

Who should attend: People involved in building a cybersecurity management

system.

Table of contents:

- Chapter 1 Overview of Cyber Security Management System Development
- Chapter 2 NK-CSMS Part 1: Requirements
- Chapter 3 NK-CSMS Part 2: Controls
- Chapter 4 Cyber Security in OCIMF VIQ and TMSA

Summary:

As ships become "smarter" and the further development of maritime industry is expected, the risks of unauthorized system intrusions, information leaks, and data falsification due to cyber-attacks are increasing accordingly. Under these circumstances, it is recommended to consider the cyber security management system in the safety management system in accordance with the objectives and functional requirement of the ISM code.

This course covers the cyber security management system developed by ship management companies, based on the guideline "Cyber Security Management System for Ships" published by ClassNK.

8. Maritime Cyber Security Technical Course (Countermeasures against Cyber Attacks) for Responsible Officers Ashore

Fee: JPY10,000

Duration: Approximately 1 hour

Who should attend: Responsible person(s) for Company IT system

Contents:

- Chapter 1 Cyber Attacks
- Chapter 2 Understanding Malware
- Chapter 3 Targeted E-Mail Attacks
- Chapter 4 Understanding Internal Fraud
- Chapter 5 Ransomware
- Chapter 6 Unauthorized Use of IoT Devices

Summary:

As ships become "smarter" and the further development of maritime industry is expected, the risks of unauthorized system intrusions, information leaks, and data falsification due to cyber-attacks are increasing accordingly. Under these circumstances, the first step to prevent cyber-attacks on ship systems

is to acquire a sound knowledge of cyber security for those who are involved in ship operations. These contents will explain actual incidents that have occurred in the maritime industry, attack methods, and countermeasures.