

# Education Description



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# 1 – Introduction

Danish Shipping Education is a two-year, industry-oriented foundational education, offered by Danish Shipping Academy. The education has been offered as a trainee-education since 2012. The education is developed by Danish Shipping and is held as a private foundational education in shipping. The education structure encompasses a mix of teaching at Danish Shipping Academy and a traineeship in an oil, shipping, chartering or operating company, either in Denmark or abroad.

Danish Shipping Education is designed for a lifelong investment in the trainee's education in shipping, introducing the trainees for a global industry, with multiple career variations and a solute first step stone into a professional business network.

The education description was revised in 2020/2021 and is effective from 1 September 2021.

# 2 – Purpose of the education

Danish Shipping Education is a foundational shipping education, oriented towards trainees from shipping companies, bunker companies, or other shipping operations, who primarily hold positions, where they are taught either as charterers, operators, or bunker traders, depending on the specifics of the individual traineeship.

Trainees enrolled in Danish Shipping Education are employed in a trainee position in the individual companies at the start of the education.

# 3 - Duration of the education

The education is valued at the equivalent of two years of full-time studies, corresponding to 120 ECTS-points (European Credit Transfer System).

ECTS-point is a numerical description of the total workload, which the completion of the education has been valued at. All forms of educational activities, related to the education, such as scheduled teaching, self-studies, project work, completion of written assignments, exercises, networking, evaluations, as well as testing and other assessments, are included in the total workload. This workload also includes the practical aspect of the education, which is encompassed in the traineeship in the individual companies.

# 4 - Qualifications of the education

Trainees can, upon completion of the education (corresponding to 120 ECTS-points), call themselves Charterer, Operator, or Bunker Trader, dependent on the specifications of the traineeship. The international designation is Foundation Degree in Shipping (comparable to Short Cycle Education in the European Credit Transfer System).

Danish Shipping Education is a private degree-education, offered by Danish Shipping. The Danish Shipping Education is at the moment in a process with level assessment at Danmarks Akkrediteringsinstitut. The Educational level will be set in november 2021.

# 5 - Enrolment requirements

Enrolment into Danish Shipping Education is on the condition that the applicant has completed one of the following qualifications:

- 1. Completion of Danish Upper Secondary School
- 2. Relevant degree completed at minimum level 4

Danish Shipping Academy is also willing to accept applicants, who, after an individual evaluation of competences referred to in the regulations regarding foundational education and further education for adults, are judged to have competences, recognised as corresponding to the enrolment requirements.

Furthermore, the applicant must have a signed trainee-agreement with a company from the relevant industry.

Danish Shipping Education offers a general introduction to the industry, with industry-familiar teachers and access to a large network. It is therefore important that the target audience is passionate about learning and challenging themselves both professionally and personally.

# 5.1 Registration

Shipping companies register their own trainees here. It is a precondition for enrolment that there is a contractual relationship of employment between an oil, shipping, chartering or operating company and a trainee.

# 6 – Goals, learning objectives, structure, and contents

The goals, learning objectives, structure and contents apply to both the theoretical and the practical aspects of the education, and are in the description separated into scheduled teaching and practical learning.

Teaching, examinations, curriculum, and assignment formulations, as well as submissions, are all conducted in English.

# 6.1 Goals for the learning objectives

The goals of the education are reached through working with the learning objectives for the individual courses, as well as working with the learning objectives in practice. Learning objectives for the individual courses and for the education in practice can be seen in the course descriptions (appendix 1-7).

# Knowledge

### **The Trainees**

 Must have knowledge about practice and application of methodology and theory in relation to the subjects offered in the education and in their relevance in the occupational fields when working as a Charterer, Bunker trader and Operator in a Shipping company.

- Must be able to understand practice and the central utilised theories and methods, as
  well as how to apply them when working in the Maritime Industry within the companies
  where the trainees are employed.
- Must have knowledge of the key stakeholders in the maritime industry and their roles.
- Must have knowledge of the key concepts and terminology relating to their occupational roles within the maritime industry which they use in their daily work practices.
- Must be able to understand the basic commercial, operational and regulatory frameworks in the shipping industry.
- Must have knowledge of the fundamental legislation within the maritime industry and its relationship to international trade, the shipping industry and their occupational roles.

### Skills

### **The Trainees**

- Must be able to apply and combine central methods and tools, relating to the Maritime Industry during their daily work as trainees and be able to utilise these in working processes in practice.
- Must be able to assess practice-based issues and adjust their working procedures and processes based on this assessment within daily work scenarios.
- Must be able to communicate practice-based issues and potential solutions to colleagues, clients and collaborative partners within the companies where they work. Must be able to identify issues in their daily work tasks and apply concept, principles and procedures in order to resolve these issues.
- Must outline and examine emerging trends and technologies in interdisciplinary subjects and apply them in daily work tasks and identify potential opportunities with the company.

# Competences

### **The Trainees**

- Must be able to participate in developmental working processes and/or interdisciplinary working processes in the company.
- Must be able to handle manage, plan and take responsibility of daily work tasks while
  doing so in collaboration with colleagues and with a professional approach. Must be
  able to attain new knowledge, skills, and competences, relating to the maritime industry, in structured contexts.
- Must take responsibility for learning at one's own place of employment and utilize theory from DSE in practical work solutions and utilize the opportunity to have constructive dialogue with their mentor.
- Must be able to present and identify different options and different points of view when handling work tasks.

# 6.2 The structure and contents of the education

The education totals 120 ECTS and is structured in such a way that trainees alternate between the traineeship with the companies and scheduled classes at Danish Shipping Academy.

At Danish Shipping Education, all scheduled classes and educational activities are mandatory as part of Danish Shipping Education.

The educational workload is divided between scheduled classes at Danish Shipping Academy with 24 ECTS and on-the-job training at the shipping companies with 96 ECTS.

# On-the-job training

On-the-job training covers the practical part of the education and includes the learning that takes place during the trainee's work with the individual companies. On-the-job training spans the full two years of the education.

# Maritime Law: Legal aspects of shipping

Maritime Law makes up a total of 30 ECTS, of which scheduled classes make up 6 ECTS. The course includes classes at Danish Shipping Education, as well as related on-the-job training in the companies. Classes in Maritime Law at Danish Shipping Education take place during modules 2 and 3, and webinars are conducted in connection with module 2.

### Maritime Economics: The Global impact on maritime and business economics

Maritime Economics makes up a total of 30 ECTS, of which scheduled classes make up 5 ECTS. The course includes classes at Danish Shipping Education, as well as related on-the-job training in the companies. Classes in Maritime Economics at Danish Shipping Education take place during modules 1, 2 and 4, and webinars are conducted in connection with module 1.

# Energy and fuel: adapting for a sustainable future

Energy and Fuel makes up a total of 10 ECTS, of which scheduled classes make up 2 ECTS. The course includes classes at Danish Shipping Education, as well as related on-the-job training in the companies. Classes in Energy and Fuel at Danish Shipping Education take place during modules 1 and 3, and webinars are conducted in connection with modules 2 and 3.

# Ship Design: Constructions, operations, and future vessels

Ship Design makes up a total of 30 ECTS, of which scheduled classes make up 6 ECTS. The course includes classes at Danish Shipping Education, as well as related on-the-job training in the companies. Classes in Ship Design at Danish Shipping Education take place during modules 1, 2, 3, and 4.

# Logistics and Supply Chain

Logistics and Supply Chain makes up a total of 10 ECTS, of which scheduled classes make up 2 ECTS. The course includes classes at Danish Shipping Education, as well as related on-the-job training in the companies. Classes in Logistics and Supply Chain at Danish Shipping Education take place during modules 1 and 3, and webinars are conducted in connection with modules 2 and 3.

# Connecting Shipping relations

Connecting Shipping relations makes up a total of 10 ECTS, of which scheduled classes make up 4 ECTS. The course includes classes at Danish Shipping Education, as well as related on-the-job training in the companies. Classes in Connecting Shipping relations at Danish Shipping Education take place during modules 1, 2, and 4.

# 6.2.1 Overview of scheduled classes and webinars

Module 1	
Subjects	Teaching days
Maritime Economics	1
Maritime Law	0
Ship design	2
Connecting Shipping relations	2
Logistics and Supply Chain	1/2
Energy and Fuel: Adapting for a sustainable future	1/2

Webinar		
Subject	Number	Hours per. webinar
Maritime Economics	5	2.5

Module 2	
Subjects	Teaching days
Maritime Economics	0
Maritime Law	3
Ship Design	2
Connecting Shipping relations	1
Logistics and Supply Chain	0
Energy and Fuel	0

Webinar		
Subject	Number	Hours per. webinar
Maritime Law	9	3
Logistics and Supply Chain	2	3
Energy and Fuel	2	3

Module 3	
Subjects	Teaching days
Maritime Economics	1
Maritime Law	2
Ship Design	2
Connecting Shipping relations	0
Logistics and Supply Chain	1/2
Energy and Fuel	1/2

Webinar	
Subject	Hours per. webinar
Logistics and Supply Chain	1 webinar of 3 hours
Energy and Fuel	1 webinar of 3 hours

Module 4	
Subjects	Teaching days
Maritime Economics	0
Maritime Law	0
Ship Knowledge	2
Connecting Shipping relations	1
Logistics and Supply Chain	1/2
Energy and Fuel	1/2
Exam	1
Graduation	1

### 6.3 Modules

Danish Shipping Education is a two-year education for shipping trainees, consisting of 4 separate modules (2 per year). The modules consist of classroom teaching followed by a series of webinars.

### The purpose of each module description is to give the trainee a broad overview of the:

- Classroom
- Webinar
- Module in relation to practice
- Learning objectives
- Evaluation
- Reading list.

### Modules consist of 3 or more of the following subjects:

(see below and course descriptions for further details).

- Logistics and Supply Chain Management
- Energy and Fuel: Adapting for a Sustainable Future
- Connecting Shipping Relations
- Ship Design: Constructions, Operations and Future Vessels
- Maritime Economics: The Global Impact on Maritime and Business Economics
- Maritime Law: Legal Aspects of Shipping.

# 7 – Network

Throughout the education, the trainees will have the opportunity to create a business network in the shipping industry. They will study alongside trainees from a variety of functions, companies, and countries. The trainees represent different segments of the shipping industry, which will create diversity in the classroom and learning opportunities.

The network that trainees build during their education, will often support them throughout their careers in shipping. The worldwide and varied network is therefore invaluable and crucial to their opportunities in, and knowledge of, the shipping industry. The network can be a source of inspiration, of new ideas, of ways to develop problem solving, and of client contacts, as well as being key to a successful start to their careers.

At Danish Shipping Education, it is taken into consideration how trainees can build up their network. The networking opportunities are strengthened through organized teaching, where group work and professional dialogue is prioritized, and through the study-free activities after teaching. Danish Shipping Academy will encourage trainees to create open activities that takes the diversity of the group into account when facilitating activities for trainees.

# 8 - The pedagogical organisation of the education

Both theoretical teaching, self-study, and on-the-job training are considered a part of the educational process. The learning methods are described but may vary in relation to the scheduling and planning of teaching, changes in connection with scheduled teaching, certain external conditions, impacting possibilities for physical presence, as well as varying opportunities during on-the-job training.

# 8.1 Modes of teaching and working

Common for the scheduled classes at Danish Shipping Academy is that teaching is application-driven, which is mirrored in the relatively close interaction between the trainee's practical experiences from the companies and the theoretical content of the classes. Emphasis is placed on teachers having practical and relevant industry experience within the topic, and that the trainee's experiences from the companies are utilised in the teaching.

Development of professional and personal qualifications is integrated into teaching, this means professionalism is primarily achieved through educational working methods, which develop and support personal qualifications, such as independence, initiative, critical decision making, creativity, innovation, and cooperative skills. The trainee is given the opportunity to develop knowledge, skills, and competences in the interplay between practical, theoretical, and developmental understanding.

Courses are made up of professional and technical discussions, sharing of experiences, trainee-presentations, guest lecturers, project work, case studies, company visits, and group work. The variation between the educational methods is meant to ensure trainees have both personal and professional development, as well as provide the opportunity for professional immersion and to create links between theory and practice.

To support the learning, and to assess the benefit of the teaching, the trainee is required to complete self-study assignments. The amount of assignments is dependent on the scale of the course. Assignments are carried out in a way in which the work is preparatory in relation to the final exams.

The education includes flexible modes of working, including virtual methods.

Emphasis is placed on the trainee's ability to seek out, assess, and apply technical information. These are skills which are fundamental for the achievement of new qualifications, as part of lifelong learning and development.

# 8.2 Participation as an educational method

Trainees at Danish Shipping Education are responsible for participating actively in coursework. This responsibility is included as part of the education, as part of groupwork and joint projects. The responsibility is to participate proactively and to be engaged at both the physical modules and webinars. It is a shared responsibility, that trainees experience courses as vibrant and developmental for all, coursework as an integral part of the networking opportunities of the education.

# 8.3. Learning Management System - LMS

Throughout the education, trainees will have access to the Danish Shipping Education LMS, an educational learning management system with an intuitive interface, which is easy to navigate and adds value to the learning experience. The LMS has a responsive design and can be accessed via laptops, iPad, and mobile devices.

Each trainee will receive their own personal login to LMS, during this process they will be requested to accept the relevant General Data Protection Regulation (GDPR). All data will be handled in accordance with the current GDPR.

The LMS serves the purpose of providing trainees with easy access, anytime and anywhere, to training materials, syllabus, reading lists, schedules for instructor-led training and recordings of webinars. Each trainee will have their very own calendar, which they will be able to use to plan their schedule and attend live-streamed webinars. If trainees are unable to attend the live-streaming, for example due to time-zone issues, there is the extra flexibility of watching presentations and lectures at a time which suits their own schedule. All exam and tests will be conducted within the LMS and trainees will have access to their feedback and grades.

It is also a communication platform, facilitating easy channels of communication between trainees, trainers, and training advisor at Danish Shipping. The purpose of the LMS is to keep trainees on track and engaged with private messages, a calendar, and discussion forums. Trainees will be expected to access the LMS on regular basis as materials, notifications about courses, and other important information will continuously be updated and uploaded onto the LMS.

### 8.4 Evaluation

The courses that form the education are systematically evaluated, to ensure quality and development of its contents, as well as communication of its professional and technical aspects.

The evaluations are part of the ongoing internal work of development and quality assurance. An evaluation of the trainee's learning objectives in practice takes place after both the individual modules and the final year of the education. The evaluation of the final year will be part of the overall evaluation of the education.

Evaluations are considered at meetings with the educational board of Danish Shipping Education at Danish Shipping Academy, as well as during instructor meetings at Danish Shipping Academy.

# 9 - Tests, exams and assessment

The courses Logistics and Supply Chain and Energy and Fuel will be examined by an online multiple-choice test. Connecting Shipping Relations will be examined by an essay. The courses Maritime Law, Maritime Economics, and Ship Design will be assessed by a final interdisciplinary written project and a final oral exam carried out in groups.

The education is completed with a final examination, containing an assessment of the learning objectives, based on the overall learning objectives.

The conditions for arranging and conducting exams and tests, described in appendix 7: Exam descriptions, are set by the below government orders:

- Ministry of Children and Education Ministerial Order no. 41 of 16 January 2014 on the tests and examination in basic vocational education.
- Danish Ministry of Education Ministerial Order no. 262 of 20 March 2007 on the Grading Scale and Other Forms of Assessment.

All courses are concluded with either an external or internal assessment. All assessments and evaluations of practice are individual and applied to the overall diploma.

The rules regarding exams at Danish Shipping Education are elaborated upon in Appendix 7: Exam description. This lays out the general exam regulations, guidelines in case of illness, special regulations, applicable to the individual courses, as well as complaint regulations.

### 9.1 Foundation for assessment

Tests and exams are assessed based on the Danish 7-point scale. Additionally, a grade is granted based on ECTS. The grading system in Denmark applies to all educational institutions. The seven-point scale allows you to convert Danish grades to ECTS credits according to the EU's European Credit Transfer and Accumulation System.

Danish Grade	Equvivalent ECTS	Explanation of the grade	Description
12	А	For an excellent performance	For an excellent performance displaying a high level of command of all aspects of the relevant material, with no or only a few minor weaknesses
10	В	For a very good performance	For a very good performance displaying a high level of command of most aspects of the relevant material, with only minor weaknesses
7	С	For a good performance	For a good performance displaying good command of the relevant material but also some weaknesses
4	D	For a fair performance	For a fair performance displaying some command of the relevant material but also some major weaknesses
02	Е	For an adequate performance	For a performance meeting only the minimum requirements for acceptance
00	Fx	For an inadequate performance	For a performance which does not meet the minimum requirements for acceptance
-3	F	For an unacceptable performance	For a performance which is unacceptable in all respects

# 9.2 General guidelines for examinations

### **Plagiarism**

All kind of plagiarism is strictly forbidden. Consequently, it is of high importance, that the trainee shows the ability to differ between when they refer to a book, article, journal etc. and when the trainee is making an argumentation of their own.

### Re-exam

If the trainee fails the exam or falls sick on the exam day, it will be possible to take a re-exam. In both cases, please contact the training advisor at Danish Shipping Academy by mail for further arrangement.

### Complaint guide

In case the trainee disagrees with the assessment of the assignment, a complaint can be filed by mail to the training advisor at Danish Shipping Academy no later than two weeks after the exam date. The complaint must include a thorough argumentation for the discrepancy using the information stated in the paragraph 'Assessment basic'.

The trainee is entitled to be notified about the proceeding of the complaint no later than two weeks after the complaint has been submitted.

### 9.2 Examiners

Danish Shipping Academy uses teachers from the individual courses as assessors on both internal and external tests. Censors of external tests are from the Danish Shipping Academy censor-corps. All censors have specialised experience within the scope of the course and connection to the shipping industry.

# 9.3 Examination plan

The exam framework is described in depth in the Exam Description for each course and in the module descriptions.

The final exam is held in connection with module 4. The final exam includes a written assignment, an oral presentation, and an examination. The final exam is carried out as a group exam. The framework of the exam is described in-depth in Appendix 8: Final interdisciplinary exam project.

# 9.4 Assessment of learning outcome in practice

The company who employs the individual trainee is responsible for assessing the trainee's performance in practice. The basis for assessment is pass/fail. The basis for assessment, described in Appendix 7: Learning objectives for practice, as well as in the Examination guide for Danish Shipping Education, is considered and signed by the individual trainee's mentor.

# 10 - Guidance

Guidance counselling concerning the general conditions and planning of the education is offered by Danish Shipping Academy's education consultant.

Trainees can receive guidance counselling in relation to scheduled teaching of the individual courses, as well as concerning the carrying out of tests.

### 10.1 Mentors

All Trainees enrolled in Danish Shipping Education, are assigned a mentor or an education-responsible contact in the company where the traineeship is undertaken. Mentors or the education-responsible contact ensure learning in practice, based on the described learning objectives, and the trainee's assignments. Trainees can receive help from their mentors or their colleagues in structuring their learning in practice. Mentors and education-responsible contacts enrolled in Danish Shipping Education, receive an offer to participate in a mentor seminar, hosted by Danish Shipping, twice a year.

The companies are responsible for evaluating and assessing whether the trainee reaches the learning objectives of the internship.

# 11 - Complaints

Complaints regarding conditions for, and results of, assessments can be submitted in accordance with the applicable guidelines (see Appendix 7: Exam description) no later than 14 days after concluding testing. Complaints are treated in accordance with applicable guidelines in the Exam description.

Complaints and other matters are submitted to Danish Shipping Academy.

Danish Shipping Academy can offer dispensation from the rules set out in the education description based on special circumstances.

# **Appendix 1**

# Course description, Logistics and Supply Chain Management

### Course purpose

The course will provide trainees with an insight into the complexities of international transport logistics and understanding of international supply chains. The course will focus on multimodal transport (also known as combined transport, multimodal transport is the transportation of goods under a single contract but performed with at least two different modes of transport), planning and controlling the flow of goods and services throughout the supply chain and the types of service infrastructure. It is important to keep in mind that upwards of 90% of all international cargo transport includes a sea movement leg, therefore the course highlights the logistics involving maritime transport.

The course will cover the major forces influencing end-to-end in supply chain management, which refers to the end-to-end process in the supply chain. The process in its entirety will be covered, starting at the procurement of materials from suppliers and the processes and logistics of getting the cargo from the manufacturers warehouse (point of origin), and ending with the receivers warehouse (point of destination) and when the product reaches the customer. This course also enables the participants to understand how shipping industry is connected to port and terminal business and together form the maritime supply chain.

The course will give insights into efficient supply chain management, which helps to increase the efficiency of logistics service by minimizing inventory and moving goods efficiently from producers to the ultimate users. The existing and emerging technologies for more sustainable transportation will also be explored.

### **ECTS**

Logistics and Supply Chain makes up a total of 10 ECTS. The course includes classes at Danish Shipping Education, as well as related on-the-job training in the companies. Classes in Logistics and Supply Chain at Danish Shipping Education take place during modules 1, 3 and 4, and webinars will be conducted in connecting to modules 2 and 3.

# Learning objectives

### Knowledge

- Understand the use of the word "logistics" when applied to commercial distribution and under the role of logistics in the provision of distribution services.
- Be well acquainted with the characteristics of different modes of transport, multi-modal and inter-modal, which include the geography of trade, including distribution and documentation.
- Understand the effect of globalization on port choice and how changes in logistics and distribution patterns influence the development or decline of ports.

- Understand the major trade routes and the types of ship used for transportation of the five primary raw materials: coal, grain, ores, fertilizers and oil, and general cargo (manufactured goods).
- Understand the factors that influence the choice of the most favored transport modes for these commodities, e.g., containerization, palletization, multi-modal transport, as well as the infrastructure required.

### Skills

- Identify the roles of the various types of operators involved in multimodal transportat and explain the types of service structure that they offer. Apply this knowledge when communicating with multimodal transport operators (MTO) in daily work practices.
- Identify environmental challenges and issues within a supply chain and recommend sustainable measures/greener logistics to collaborative partners to reduce their impact.
- Outline and examine existing and emerging technologies for sustainable transportation.

### Competences

- Manage and develop a suitable transport strategy which can be utilized in your company based on specific supply chain drivers and parameters.
- Discuss and justify the use of multimodal transport and apply to daily work practices.
- Evaluate and assess how the E2E supply chain can be optimized and improved in relation to new technologies like Block Chain. Discuss with collaborative partners.
- Develop and evaluate port policies under a holistic understanding of a port's significance to the national economy and international supply chains.

### Course content

### Geography of international trade

- Intro to the supply-chain concept and how different modes may be combined.
- Overview of the 5 primary raw materials that ships transport, the major trade routes, and types of ships for transportation.

### Logistics

- The importance of the efficient flow and storage of goods, services, and related information between the point of origin and the point of consumption to meet customer's requirements.
- The difference between intermodal (road/rail/sea; sea/air; road/air, road/rail) and multimodal transport advantages and disadvantages.

### Supply chain and International Distribution

- Supply chain concept and how different transport modes may be combined.
- Examples of Supply Chain Management which ensures timely delivery of goods to keep customers satisfied but also brings down costs for the manufacturer by reducing wastage.

### The practitioners

- The types of multimodal transport operators: liner operators, NVOC's, freight contractors, freight freighters, parcel/courier services, etc.
- Be aware of the growing overlap of and competition among the operators.

### Ports and terminals as part of the supply chain

- The importance of modal interfaces and the basic functions of ports, airports, inland depots, and railheads.
- How the shipping industry is connected to port and terminal business and forms part of the maritime supply chain.
- The role of port in international trade and transport and how ports can benefit or detract from the economic development of countries and their seaborne trade.

### Emerging trends and sustainability in logistics and supply chain

- The effects of emerging technologies (e.g. block chain on existing supply chains).
- Overview of environmental challenges and issues within a supply chain.
- Existing and emerging technologies for sustainable transportation.

# Teaching methods

The course primarily consists of classroom teaching, combining lectures, discussions, group work, presentations, in which the participant is expected to participate proactively in all the activities, and assignments. The subject matter will also be discussed in a series of webinars. All teachers have built a career in the logistics and supply chain management and can consequently share their knowledge about the role logistics and supply chain management business plays in the maritime industry.

# Exam in Logistics and Supply Chain

### Exam form

Multiple choice test is used as an internal test in Logistic and Supply Chain. The test is closely linked to the syllabus and spans a wide range of course topics. The questions will require objective answers.

One answer only be selected for each question unless otherwise clearly marked by the check-boxes.

The questions can have the character of Contextual MCQ, Conventional MCQ, true / false MCQ or matching MCQ.

It is permitted to use all kinds of aids.

The test is held virtually on the Learning Management System (LMS).

### Exam language

The test is held in English.

### **Exam process**

The trainee will receive a notification via email from the Learning Management System (LMS), trainees will be able to access the test using a password received in the notification via email.

Day 1: The test opens Day 2: The test closes

Dates for the examination are set and announced no later than the end of module 2.

The prerequisite for taking the exam is participation in teaching with a minimum of 80%.

The test can be opened in the LMS once by each trainee during the examination period. The test is considered handed in when the test is submitted in the LMS.

Total response time must not exceed 2 hours.

### Objectives for the exam

At the test, the trainee must demonstrate that he or she has achieved the subject learning objectives

### Knowledge

- Understand the use of the word "logistics" when applied to commercial distribution and under the role of logistics in the provision of distribution services.
- Be well acquainted with the characteristics of different modes of transport, multi-modal and inter-modal, which include the geography of trade, including distribution and documentation.
- Understand the effect of globalization on port choice and how changes in logistics and distribution patterns influence the development or decline of ports.
- Understand the major trade routes and the types of ship used for transportation of the five primary raw materials, coal, grain, ores, fertilizers and oil and general cargo (manufactured goods).
- Understand the factors that influence the choice of the most favoured transport modes for these commodities e.g. containerization, palletization, multi-modal transport, and the infrastructure required.

### Skills

- Identify the roles of the various types of operators involved in multi-modal transportation and explain the types of service structure that they offer. Apply this knowledge when communicating with multi-modal transport operators (MTO) In daily work practices.
- Identify environmental challenges and issues within a supply chain and recommend sustainable measures / greener logistics to collaborative partners to reduce their impact.
- Outline and examine existing and emerging technology for sustainable transportation.

### **Competences**

- Manage and develop a suitable transport strategy which can be utilized in your company based on specific supply chain drivers and parameters.
- Discuss and justify the use of multi-modal transport and apply to daily work practices.
- Evaluate and assess which the E2E supply chain can be optimized and improved relating to new technologies like Block Chain. Discuss with collaborative partners.
- Develop and evaluate port policies under a holistic understanding of a port's significance to the national economy and international supply chains.

### Foundation for the test

The foundation for the test is the teaching and literature from the subject Logistics and Supply Chain.

For further information, see the examination regulations for Danish Shipping Education

### Assessment foundation for the test

The test is arranged for completion according to module 3 and after completing theoretical teaching on the program. The scale is judged based on the 7-step scale according to the criteria described previously in the education description.

### Guidelines for answering the test

The questions in the internal test with Multiple Choice questions are designed according to the following guidelines:

- Are closely linked to the syllabus and spans a wide range of topics.
- Covers all the learning objectives of the subject.
- Is adapted to the level of education.
- Formulated in clear and concise language.
- Is designed for objective answer and the answer therefore does not depend on interpretation.

The degree of difficulty and scope of the questions varies and is thus assessed accordingly. The test is an individual answer and is accessed via Learning Management System (LMS), a notification is sent out before the start of the exam. Trainees are guided via the LMS to the test questions.

# **Appendix 2**

# Course description, Energy and fuel: adapting for a sustainable future

### Course purpose

The overall purpose of this course is to give trainees an insight into the operational, commercial, financial, and legal aspects of bunkering. Bunkering is the supplying of fuel for use by ships, the course will also include core knowledge about the bunker industry including key players and their relationships. The course will also cover the logistics of loading fuel and distributing it among available bunker tanks, the different qualities of fuel and the importance of bunkering operations, procedures, and handling. The trainees will gain an understanding of the execution of bunkering, what practical considerations must be taken in this connection and what risks are associated with this.

The importance of bunker fuel will be set in the context of the related challenges of the demand for alternative fuels and why are they required, improved trading technology and ever stringent environmental regulations. This course will give an introduction of how stricter legislations demand new and more sustainable solutions for fuels and logistics within the maritime industry with the aim of protecting the environment. International Maritime Organization, Shipping industry and fuel oil supplier are taking initiatives to reduce their Sulphur emissions which cause pollution, Since 1. January 2020 ships have only been permitted to use fuel with a low Sulphur content of 0.5% compared to 3.5% previously, these regulations have been implemented by International Maritime Organization.

### **ECTS**

Energy and fuel make up a total of 10 ECTS. The course includes classes at Danish Shipping Education, as well as related training on the job in the companies. Classes in Energy and fuel at Danish Shipping Education take place during modules 1, 3 and 4 and webinars conducted in connection with modules 2 and 3.

# Learning objectives

At the conclusion of this course trainees will be able to:

### Knowledge

- Understand the background and history of bunker fuels and bunker business.
- Have a knowledge and give examples of the regulatory bodies, regulations, and guidance.
- An overall knowledge and be able to summarize marine fuels, production, latest standards, specifications and blending.
- Be acquainted with BIMCO bunker terms 2018, which is a standard contract for the purchase and supply of marine fuels to ships.
- Be able to summarize and compare future and alternative fuels.

### Skills

- Explain and assess how seafarers involved in bunkering operations should act in compliance with appropriate industry regulations and industry best practice to promote safe and efficient bunkering operations.
- Analyze and explain why careful handling of bunker fuels is crucial.
- Identify how to minimize contamination and prevent the introduction of contaminants which would be in breach of environmental and safety regulations and how this can contribute to effective work processes.
- Identify future fuels which can meet the needs of existing and future environmental and other restrictions, drive efficiency and minimise costs in the company where you work.

### **Competences**

- Identify and discuss the current challenges faced by the bunker industry and be able to ask the right questions to the parties involved.
- Identify and compare future bunker fuels coming into use and their relevance/use in the company where you work.
- Trainees will be expected to do their own independent learning to increase their up-todate knowledge regarding dynamic bunkering issues like future fuels by accessing relevant websites and documentation. Consequently, applying their knowledge of different aspects of bunkering to their daily work routines.

### Course Content

### Introduction and historical development of the bunker industry

- Major operators and national oil company monopolies.
- Fuel demand in the shipping industry.

### An overview of traditional marine fuels, specifications and quality and future fuels

- Overview and nature of marine fuels, gas oil, gas, diesel.
- Comparison between alternative fuels; LNG/ LPG/Methanol/Biofuels/Hydrogen/ Ammonia/Nuclear.

### Bunker operations and handling

- Handling and storage of bunker fuel.
- Monitoring of operation in accordance with SMS, SOPEP or SMPEP.
- Operation and procedures for managing bunker fuel at sea and in the port.
- BIMCO's Bunkering operations and sampling clause.

### Environmental protection, Health and safety regulations and compliance

- Management of safety impact of spills on humans, environment, and equipment.
- Current and future regulations applying to managing bunker fuel. MARPOL Annex VI.
   Sulphur restrictions.
- How to prevent and minimize the impact of accidents with bunker fuels.

### **Future fuels**

- Future & alternative fuels Decarbonization, low-carbon; challenges and opportunities
- Improve ships energy efficiency by way of Greener technology

# **Teaching Methods**

The course will primarily consist of classroom teaching combining lectures, discussions, group work and presentation in which the participant will be expected to proactively participate in all the activities and assignments. The subject matter will also be discussed in a series of webinars. Learn from teachers and industry experts who have built a career in the bunker industry and can share their knowledge about the role bunkering business plays in the shipping industry.

# Exam in Energy and fuel: adapting for a sustainable future

As a part module 3, an internal multiple-choice test will be taken online on the Learning Management System. The test is assessed as passed / failed. For further elaboration see the exam description. The subject Energy and fuel may be included in the final interdisciplinary assignment.

### Exam form

Multiple choice is used as an internal test in Energy and fuel: adapting for a sustainable future. The test is closely linked to the syllabus and spans a wide range of course topics. The questions will require objective answers.

One answer only can be selected for each question unless otherwise clearly marked by the checkboxes.

The questions can have the character of Contextual MCQ, Conventional MCQ, true / false MCQ or matching MCQ.

It is permitted to use all kinds of aids.

The test is held virtually Learning Management System (LMS).

### **Exam language**

The test is held in English

### **Exam process**

The trainee will receive a notification via email from the LMS, trainees will be able to access the test using a password received in the notification via email.

Day 1: The test opens Day 2: The test closes

Dates for the examination are set and announced no later than the end of module 2. The prerequisite for taking the exam is participation in teaching with a minimum of 80%. The test can be opened in the LMS once by each trainee during the examination period.

The test is considered handed in when the test is submitted in the LMS. Total response time must not exceed 2 hours and will monitored in the LMS.

### Objectives for the exam

At the test, the trainee must demonstrate that he or she has achieved the subject learning objectives.

### Knowledge

- Understand the background and history of bunker fuels and bunker business
- Have a knowledge and give examples of the regulatory bodies, regulations, and guidance
- An overall knowledge and be able to summarize marine fuels, production, latest standards, specifications and blending
- Be acquainted with BIMCO bunker terms 2018, which is a standard contract for the purchase and supply of marine fuels to ships.

### Skills

- Explain and assess how seafarers involved in bunkering operations should act in compliance with appropriate industry regulations and industry best practice to promote safe and efficient bunkering operations.
- Analyze and explain why careful handling of bunker fuels is crucial.
- Identify how to minimize contamination and prevent the introduction of contaminants which would be in breach of environmental and safety regulations and how this can contribute to effective work processes.
- Explain and assess how greener technology/optimization of technology can contribute to improving a ship's energy efficiency.

### Competences

- Identify and discuss the current challenges faced by the bunker industry and be able to ask the right questions to the parties involved.
- Identify and compare future bunker fuels coming into use and their relevance/use in the company where you work.
- Trainees will be expected to do their own independent learning to increase their up-todate knowledge regarding dynamic bunkering issues like future fuels by accessing relevant websites and documentation. Consequently, applying their knowledge of different aspects of bunkering to their daily work routines

### Foundation for the test

The foundation for the test is the teaching and literature from the subject Energy and fuel: adapting to a sustainable future.

For further information, see the examination regulations for Danish Shipping Education

### Assessment foundation for the test

The test is arranged for completion according to module 3 and after completing theoretical teaching on the program. The scale is judged based on the 7-step scale according to the criteria described previously in the education description.

### Guidelines for answering the test

The questions in the internal test with Multiple Choice questions are designed according to the following guidelines:

- Are closely linked to the syllabus and spans a wide range of topics.
- Covers all the learning objectives of the subject.
- Is adapted to the level of education.
- Formulated in clear and concise language.
- Is designed for objective answer and the answer therefore does not depend on interpretation.

The degree of difficulty and scope of the questions varies and is thus assessed accordingly. The test is an individual answer and is accessed via Learning Management System (LMS), a notification is sent out XX before the start of the exam. Trainees are guided via the LMS to the test questions.

# **Appendix 3**

# Course description, Connecting shipping relations

# Course Purpose

Through the study of interdisciplinary elements covering negotiation techniques, communication and cultural awareness and dealing with conflicts this course will equip trainees with key competences required to achieve results in the global shipping world. These are competences trainees are required to apply daily when collaborating with business partners across national borders. This course will give trainees a better insight into intercultural issues and will allow them to approach daily situations with a better understanding and more confidence.

The course will focus on what does it take for trainees to make effective and constructive collaboration across borders to avoid misunderstanding and promote knowledge sharing. This will be considered in the context of building trust in face to face and virtual cooperation, learning to create "win to win" situations and understanding what culture is and when it plays a role. The course will provide trainee with a set of tangible tools and cases to reduce misunderstanding and conflicts when interacting in their daily work life.

### **ECTS**

Connecting Shipping relations makes up a total of 7 ECTS. The course includes classes at the Danish Shipping Education, as well as related training on the job in the companies. Classes in Connecting Shipping relations at Danish Shipping Education take place during modules 1, 2, and 4.

# Learning objectives

### Knowledge

- Understand the importance of negotiating, with an eye for the long-term exchange through results and relations.
- Be aware of ways to ease communication with clients, customers and colleagues from different cultures.
- Understand how cultures vary across the globe and how cultural preferences influence in relation to building relations, communication styles, conflict management and decision-making.
- Understand proactive conflict management in the physical and virtual workplace.

### **Skills**

- Identify and explore the wide range of scenarios in their daily work lives that can be negotiated and be aware when a negotiation is taking place.
- Assess how cultural differences can cause confusion and inefficiency in different approaches to deadlines, timekeeping and speaking styles, and suggests way to avoid miscommunication.
- Focus on the pitfalls when communicating across languages and cultures and increased awareness about techniques for communicating across linguistic and cultural barriers.

### **Competences**

- Assess their own and other people's negotiation result and give constructive feedback.
- Be able to negotiate a contract and close a deal in a real-life work scenario.
- Be aware how cultural programming influences behavior and communication and adjust own behavior accordingly to improve collaboration and communication.
- Use your knowledge about cross-cultural differences and communication to achieve better results for your team when collaborating with colleagues and clients.

### Course Content

### **Negotiation**

- Practicing simulations and give/receive feedback.
- Experiencing the coordination between physical and psychological factors in negotiation.

### **Presentation techniques**

- Practical training in presenting and improvising short speeches.
- Presenting to an international audience.
- Strengthening of your personal confidence when communicating in English.

### **Cultural Awareness and Communication across borders**

- An introduction to intercultural awareness, communication and what makes cultures different.
- Strengthen the ability to communicate, collaborate and build relationships globally.
- Being aware of the different challenges when collaboration partners are in different countries, time zones and are communicating in a foreign language.
- Strategies on adapting your communication style and optimize collaboration in your global interaction.
- Tools in effective communication in relation to providing feedback and building trust.
- Virtual/remote working, communication and conflicts (challenges and overcoming them).

# **Teaching Methods**

The course emphasizes putting theory into practice, learning by doing which provides trainees the chance to develop an understanding of issues and methods which can be utilized in daily work scenarios. The course will be delivered as a series of interactive workshops. The trainees are encouraged to draw on real-life business cases and presentations from daily work scenarios. Video assessment and constructive feedback is used as an effective way for personal development. Trainees will be given feedback in a safe learning environment and can try out the tools, so they feel confident to put them into practice in the daily life as shipping professionals.

# Exam in Connecting Shipping relations

### Exam form

Essay, Internal Sample It is permitted to use all kinds of aids

### **Exam language**

The test is held in English

### **Exam process**

Day 1: Access Case / text via the Learning Management System (LMS)

Day 2-4: Preparation of Essay

Day 5: Submission of essay by uploading the file via the LMS

Dates for the examination are determined and announced no later than the end of module 2. The prerequisite for taking the exam is participation in teaching with a minimum of 80%

### Objectives for the exam

At the exam, the trainee must demonstrate that he or she has achieved the subject learning objectives.

### Knowledge

- Understand the importance of negotiating, with an eye for the long-term exchange through results and relations.
- Be aware of ways to ease communication with clients, customers and colleagues from different cultures.
- Understand how cultures vary across the globe and how cultural preferences influence in relation to building relations, communication styles, conflict management and decision-making.
- Understand proactive conflict management in the physical and virtual workplace.

### **Skills**

- Identify and explore the wide range of scenarios in their daily work lives that can be negotiated and be aware when a negotiation is taking place.
- Assess how cultural differences can cause confusion and inefficiency in different approaches to deadlines, timekeeping and speaking styles, and suggests way to avoid miscommunication.
- Focus on the pitfalls when communicating across languages and cultures and increased awareness about techniques for communicating across linguistic and cultural barriers.

### **Competences**

- Assess their own and other people's negotiation result and give constructive feedback.
- Be able to negotiate a contract and close a deal in a real-life work scenario.
- Be aware how cultural programming influences behaviour and communication and adjust own. behaviour accordingly to improve collaboration and communication.
- Use your knowledge about cross-cultural differences and communication to achieve better results for your team when collaborating with colleagues and clients.

### Foundation for the exam

The foundation for the exam is the teaching and literature from the subject Connecting Shipping Relations, as well as obtained learning objectives from practice in the company.

For further information, see the examination regulations for Danish Shipping Education

### Assessment foundation for the exam

It is judged based on the 7-point danish grading scale according to the criteria described on page 9. Emphasis is placed on the trainee being able to put the problem into perspective for their own job function, company, industry.

### Elaboration of the exam form

### **Essay**

An essay is a short text based on written sources or personal considerations. In the text, you discuss challenges and issues, and you reflect on tools, methods or solutions in a problem-solving related practise. The essay assignment is based on a case or text that you receive at the start of the exam (see exam sequence).

### **Purpose**

- You must show that you have insight into and understanding of the text
- You must show that you can reflect on issues and views
- Your assignment must show that you can express yourself independently and personally.

### **Contents**

- 1. Introduction. Describe the topic
- 2. Elaboration. Examine and characterize the topic
- 3. Conclusion. Reflect on the topic.

# **Appendix 4**

# Course description, Ship Design: Constructions, operations and future vessels

### Course Purpose

This course provides a foundation in ships and shipping. The modules cover a range of subjects from shipping as a business entity, ship operations and management to the technology of various types of ship. The aim of the course is to provide participants working in the shipping industry with the necessary knowledge of ship technology and maritime regulation to interact effectively with the ships they operate. New innovative ship designs e.g. greener technology are typical responses from customers' needs or responses to changes in world politics, competitiveness and hence commercial success depend on the fine balance between investment and operational costs and innovative technology.

The course will highlight the key functions in ship management and the roles and responsibilities in each area from commercial, operational to technical and administration, decision making and scenario's that trainees can relate to in their daily work. This course will enable students to be adaptive to the needs of employers and respond appropriately to emerging issues in a dynamic industry.

### **ECTS**

Ship Design makes up a total of 30 ECTS. The course includes classes at Danish Shipping Education, as well as related training on the job in the companies. Classes in Ship Design at Danish Shipping Education take place during modules 1, 2, 3, and 4.

# Learning objectives

At the conclusion of this course participants will be able to:

### Knowledge

- Understand who is who? Have a knowledge of the main practitioners in the shipping industry.
- Understanding the basis machinery used onboard vessels, as well as how it is managed to ensure optimal performance.
- Have an insight into system design and performance analysis.
- Be well acquainted with the technical aspects of ships, the different types of technology onboard and their construction.
- Understand the principal role and function of ship management whether as part of a ship owning company or as an independent management company.
- Knowledge of environmental rules and regulations governing the shipping industry.
- Understand the concepts of ship registration and its flag state.
- Understanding the world's oceans and the processes within it.

### **Skills**

- Discuss the differences between the different roles of the practitioners, who they work for. How they are paid. The works tasks etc. to effectively navigate within shipping companies when communicating with collaborative partners.
- Be able explain the terminology of ship technology to peers and collaboration partners.
- Identify and explain ship technology by simple sketches, descriptions and dimensions.
- Compare and contrast key performance indicators for different ship types and potentially identify where efficiency improvements could be made.

### **Competences**

- Develop their capacity for continuing professional development by familiarizing themselves with greener and innovative technology and ship management scenarios, which enable participants to utilize their knowledge and skills to adjust workflows and work processes accordingly.
- Students will be expected to do their own independent learning to increase and apply their knowledge of maritime regulatory framework related to operations, classification etc. serving the shipping industry by accessing their websites and explaining their aims and objectives and reasons for existence.
- Identify environmental problems and dilemmas, assess scenarios and be able to ask the right questions to parties involved and suggest solutions to improve work processes

### Course Content

The course will be conducted on the principle that the ship and operator must coexist as a team in order to secure optimal performance. When working on the course topics below, focus will be on how the decisions of the broker and the captain contribute to the successful outcome of the voyage.

### Who is who? - Ships, practitioners and maritime industry

- Key roles and relationships.
- The differences between Principals; Ship owners, charterers, shippers.
- Intermediaries; brokers, port agents, ship managers.

### The shipping business entity

- Shipping company composition and departmental responsibilities.
- Ship owners, operators and managers.
- Shipboard organization and shore interaction.

### Ship registration and classification

- The role of the flag state, national flag, nationality of vessel, open registration.
- Class society and understand the role and function of classification societies.
- Port state control.

### Ship types

• Basics of ship design and construction and the suitability of specific ship types for dif-

- ferent cargoes and trades.
- Factors contributing to a ship's port and cargo suitability including ship, safety performance, propulsion, maneuvering capabilities, cargo capacity / suitability, customer requirements, fuel consumption and speed.
- Construction, equipment and ship specifics of tankers, dry bulk carriers, container ships, RORO and MPV, oil tankers and offshore vessels.

### Maritime Geography

- Maritime geography and international trade, Oceanography; oceans of the world and the seas of which they are comprised.
- Meteorology; the effects of tides, currents, climate and weather and route optimization; major trade routes.

### Green technology and environmental management

- Environmental protection and ship owner environmental profile.
- How ship technology can improve energy efficiency by way of green technology and better optimisation of existing technology.
- How can improving the design of vessels contribute to reduction of their specific fuel consumption

### Assessment and examination

Ship design will be examined as a multiple choise test and will also be included in the final interdisciplinary project, please see appendix 8.

# Teaching Methods

The course will primarily consist of classroom teaching combining lectures, discussions, group work and presentation in which the participant will be expected to proactively participate in all the activities and assignments. The subject matter will also be discussed through a series of webinars. Learn from teachers and industry experts who have both built a career acquiring knowledge about how the appropriateness of ships for transport needs, their economy and operability are vital factors of competitiveness in global markets.

# **Appendix 5**

# Course description, Maritime Economics: The Global impact on maritime and business economics

# Course purpose

The course facilitates the trainees to understand the relevance of trade in the global shipping market and the relationship between shipping, world economy and seaborne trade. The trainees will also identify the drivers of demand and supply in the main shipping commodity markets dry bulk, container and tanker. Trainees will learn how generic economic models and theories applied in shipping and work with estimating and forecasting within work scenarios. The buying and selling of ships are an important source of revenue for shipowners but can also has the potential for huge losses, as the prices are very volatile, this course will cover the fundamentals of sale and purchase. The focus of this course will be facilitating the trainees to use their knowledge and transferable skills related to economics and management of shipping and risk management in their daily workflows.

### **ECTS**

Maritime Economics makes up a total of 30 ECTS. The course includes classes at Danish Shipping Education, as well as related training on the job in the companies. Classes in Maritime Economics at Danish Shipping Education take place during modules 1, and 3, and webinars conducted during module 1.

# Learning Objectives

After completing the course, trainees will be able to:

### Knowledge

- Understand the relationship between global economy, maritime transport and political factors.
- Understand the relationship between supply and demand of commodities and freight rates.
- Have an insight into the relationship between shipyard capacity, new building orders, the second-hand market and recycling of merchant ships.
- Be acquainted with the structure of shipping costs and revenue streams.
- Be acquainted with BIMCO contracts which could be relevant to sale and purchase e.g. NEWBUILDCON and RECYCLECON, the new Ship sale agreement.

### **Skills**

- Explain the economic organization and structure of the shipping markets.
- For shipping commodities, major dry bulk cargos, major wet bulk cargos and major container. cargo's, Identify and discuss the origin, factors affecting supply and demand and the impact on the world fleet and be able to explain to collaborative partners.
- Analyze global supply chains of production, transport, and distribution.
- Explain and recognize the link between international trade and transport and logistics.

- Analyze and appraise the role of shipping in global maritime supply.
- Explain and discuss the "lifespan" of a vessel: from new building to second-hand market to recycle.
- Define how second-hand value of ships depends on freight rates, age, inflation, and expectations.
- Outline and examine the environmental problems related to port activities and highlight methods to limit the negative impacts.

### Competences

- Identify and examine the most important shipping markets and explain recent developments and future tendencies which can be applied to work processes.
- Identify and assess factors which determine business opportunities in international shipping and apply to daily work practices.
- Enable fundamental understanding of sale and purchase both from the buyers and seller's perspective when working with both parties in your company.

### Course Content

During the course, participants will cover the following topics:

### Overview of Maritime Trade and Maritime Economics

- Maritime trade in a historical context
- Relationship between world economy and seaborne trade
- World merchant fleet, structure and composition
- Supply and demand and its impact on freight rates
- Economies of scale
- Economic mechanisms, competition drivers.

### **Major Commodities and Segments**

- Dry Bulk Shipping, Containers, Tanker Shipping
  - o Commercial origins and destinations
  - o Fleet characteristics
  - o Specific supply and demand drivers and cycles
  - o Future tendencies
- Other segments and specialized cargoes
  - o LPG/LNG, Passenger, Cruise, RoRo, Project and general cargoes.

### Estimating and forecasting

- Key elements of working with market forecasting
  - o Market research
  - o Financial instruments, freight derivatives
  - o Political factors affecting seaborne trade
  - o Structural changes in the maritime industry
  - Working with scenarios.

### Shipping lifespan and related sectors

• Shipyard and new building, sale & purchase, second-hand market and recycling.

### Port development and tendencies

- Terminal operation and productivities
- Shipping as part of the maritime supply chain.
- Environmental challenges related to port activities.

### Emerging economic trends and technologies

- The economics of navigate to Carbon neutral shipping
- How the fuel price and its availability will be likely decisive factors in the choice of fuel and alternative fuels /propulsion technology
- Willingness to pay a premium price for low-carbon products.

# **Teaching Methods**

The course will primarily consist of classroom teaching combining lectures, discussions, group work and presentation in which the participant will be expected to proactively participate in all the activities and assignments. The subject matter will also be discussed during a series of webinars. Learn from teachers/industry experts who have both built a career putting economic theories into practice and have a comprehensive knowledge of understanding and analyzing shipping's relationship to global trade.

### **Examination in Maritime Economics**

Maritime Economics will be examined as a multiple choise test and will also be included in the final interdisciplinary project, please see appendix 8.

# **Appendix 6**

# Course description, Maritime Law: Legal aspects of shipping

### Course Purpose

This course provides trainees with an understanding of International Maritime Law and its relationship with international trade and shipping and the main areas of law of specific relevance in a modern ship owning company. Trainees are given the opportunity to develop legal knowledge with a practical legal mindset and insight into the fundamental principles of shipping and trade law with roots in English law. The course gives students in-depth understanding of contracts for international law of the sea, international trade, marine insurance and carriage of goods.

The purpose of the course is to enable students to have and apply a legal approach to practical issues within the maritime field, to solve disputes and argue points of view in their daily commercial transactions. The aim is to provide students with essential practical and theoretical legal knowledge through readings, case solving and exercises enabling the students to be aware of the interests and concerns of other parties when representing the company and providing practical solutions using this knowledge. The knowledge of maritime law that the students have acquired throughout the course is, inter alia, to be used as a tool in the management of risk when the students are to participate in the negotiation of commercial and/or shipping contracts in their daily work.

### **ECTS**

Maritime Law makes up a total of 30 ECTS. The course includes classes at Danish Shipping Education, as well as related training on the job in the companies. Classes in Maritime Law at Danish Shipping Education take place during modules 2 and 3, and webinars conducted during module 2

# Learning objectives

At the conclusion of this course trainees will be able to.

### Knowledge

- Understand and be familiar at a specialized practitioner's level, with the main regulatory and contractual concepts within the shipping section and the mitigation of risk.
- Have knowledge concerning regularization, including international conventions and national legalization, of the main aspects within the shipping sector and the effects on standardized and main contracts within the sector (including advantages and disadvantages of contractual impacts in various transactional and regulatory matters).
- Understand and be aware of the interconnections between international maritime law, maritime contracts and maritime commercial transactions.
- Understand and have knowledge of the overall dispute resolution and the mechanisms hereof, including arbitration and mediation procedures.

• Be acquainted with marine insurers', including P&I Clubs and their legal representatives, role in maritime transactions and disputes, including the process of marine insurance and maritime liens.

### Skills

- Can critically analyze legal issues by examining maritime law rules and relevant international convention.
- Identify, communicate and discuss the cause, problems, dilemmas and solutions of maritime law cases in a comprehensive and professional manner.
- Prepare and construct legal arguments that can be applied in professionally practical situations.
- Identify and mitigate legal risks.

### Competences

- Explain and clarify the content of maritime law contracts and legal frameworks and apply and adjust daily work processes accordingly.
- Communicate and present main sources of international maritime law and the regulations applicable to the maritime sector and contracts and explain their role for the involved parties.
- Identify, explain, discuss and solve issues of law applicable to maritime issues and related case studies with the teachers, supervisors, legal counsel and P&I.
- Analyze problems and propose solutions for disputes and dispute resolutions.
- Develop and present arguments for disputes and dispute resolutions in an overall legally correct high-level way.
- Identify and present adequate methods and arguments to a dispute resolution.

### **Course Content**

During the course, participants will develop the ability to see the practical effects and make comparative analyses of different sets of regulations within the complex field of maritime law and be able to apply the knowledge in their professional work regarding the following topics:

### Scope and context of Maritime Law

- Overview of contracts and other legal matters in international shipping
- The international bodies involved with the maritime standard-setting process United Nations (UN) and International Maritime Organization (IMO)
- Basic principles of Contract Law (English Law)
- Law of Agency
- Carriage of passengers.

### Maritime Contracts in International Trade – Applicable instruments and standard contracts

- The sale contract and its inter-action with contracts of affreightment
- The formation of the charter, "subjects", terms and governing law.

- The following contracts/charter types will be covered in terms of their function, key legal features and ramifications; Carriage of goods by sea, Voyage chartering/Contracts of affreightment (COAs), Time chartering/Bareboat chartering, Bills of Lading and cargo claims.
- Standardised documentation fundamentals, including BIMCO standard contracts.
- Overview of applicable regulations and conventions
- Sale & purchase of ships, newbuildings and ship finance.
- Outsourcing, including management agreements.
- Pool agreements, joint ventures and other cooperation agreements.

### **Maritime Disputes and Casualties**

- Enforcement of maritime claims & Maritime liens.
- The challenges in marine insurance law relating to the interests of the parties involved.
- Arbitration, mediation and litigation.
- The liability of the vessel, marine insurance and casualty.
- The role of environmental legislation in promoting more sustainable practices
- Legal compliance.

# **Teaching Methods**

The course will primarily consist of classroom teaching combining lectures, discussions, group work and presentation in which the participant will be expected to proactively participate in all the activities and assignments. The subject matter will also be discussed during webinars held by instructors with in-depth and practical knowledge from the maritime law sphere.

### Examination in Maritime Law

Maritime Law will be examined as a multiple choise test and will also be included in the final interdisciplinary project, please see appendix 8.

# **Appendix 7**

# Learning objectives for practice

Learning objectives for the practical part of the Danish Shipping Education.

### Knowledge

The trainee should have practical and developmental skills concerning practice, work assignments, and applied methods, within shipping.

### **Skills**

The trainee must have achieved a level, qualifying them to independently being able to analyse, assess, and reflect on problems, as well as undertake practice-based and complex tasks within shipping.

The trainee must be able to utilize methods and tools, and should master the skills, associated with occupation within the field of shipping.

The trainee must be able to assess practice-based problems, as well as reason and select relevant models for solution.

The trainee must be able to communicate practice-based, as well as professional and technical, problems and solution to collaborators.

### Competences

The trainee must be able to develop, assess, and implement operational, tactical, and strategic actions within the shipping industry, and utilize relevant models for this.

The trainee must be able to independently be a part of professional and cross-field collaboration and assume responsibility within the framework of their own professional operations. The trainee must be able to develop their own practice.

# **Appendix 8**

# Final interdisciplinary exam project

# Exam type

Final written project and oral examination.

It is permitted to use all kinds of aids.

The purpose of the final project and the oral examination is to qualify the student to identify, reflect on and analyze an interdisciplinary, practice-oriented problem and to indicate solutions and options for action by applying theories, strategies and methods. The project is based upon a concrete issue/challenge in your own job function, from the company or the industry. The final project must document both a professional issue and that the education's goals for learning objectives have been achieved.

# Exam language

The written assignment and the examination are conducted in English.

# Exam process

The exam process is located between modules 3 and 4. Dates for the exam process are handed out no later than 2 months prior to the start of the exam. The exam process contains the following elements:

- The team is introduced together to the exam process and the final project
- The groups register for the exam at the Danish Shipping Academy
- The groups are assigned a supervisor
- The groups have 8 weeks to prepare a written assignment.
- The product is submitted no later than 14 days prior to oral examination

A prerequisite for taking the exam is participation in teaching with a minimum of 80%.

# Objectives for the exam

Throughout the final project and at the exam, the trainee must demonstrate that they have achieved the learning objectives of the education:

### Knowledge

The Trainees

- Must have knowledge about practice and application of methodology and theory in relation to the subjects offered in the education and in their relevance in the occupational fields when working as a Charterer, Bunker trader and Operator in a Shipping company.
- Must be able to understand practice and the central utilised theories and methods, as
  well as how to apply them when working in the Maritime Industry within the companies
  where the trainees are employed.

- Must have knowledge of the key stakeholders in the maritime industry and their roles.
- Must have knowledge of the key concepts and terminology relating to their occupational roles within the maritime industry which they use in their daily work practices.
- Must be able to understand the basic commercial, operational and regulatory frameworks in the shipping industry.
- Must have knowledge of the fundamental legislation within the maritime industry and its relationship to international trade, the shipping industry and their occupational roles.

### Skills

The Trainees

- Must be able to apply and combine central methods and tools, relating to the Maritime Industry during their daily work as trainees and be able to utilise these in working processes in practice.
- Must be able to assess practice-based issues and adjust their working procedures and processes based on this assessment within daily work scenarios.
- Must be able to communicate practice-based issues and potential solutions to colleagues, clients and collaborative partners within the companies where they work. Must be able to identify issues in their daily work tasks and apply concept, principles and procedures inorder to resolve these issues.
- Must be able to outline and examine emerging trends and technologies in interdisciplinary subjects and apply them in daily work tasks and identify potential opportunities with the company.

### **Competences**

The Trainees

- Must be able to participate in developmental working processes and/or interdisciplinary working processes in the company.
- Must be able to handle manage, plan and take responsibility of daily work tasks while
  doing so in collaboration with colleagues and with a professional approach. Must be
  able to attain new knowledge, skills, and competences, relating to the maritime industry, in structured contexts.
- Must take responsibility for learning at one's own place of employment and utilize theory from DSE in practical work solutions and utilize the opportunity to have constructive dialogue with their mentor.
- Must be able to present and identify different options and different points of view when handling work tasks.

# Guidance in the exam process

Trainees are offered guidance in connection with the exam process according to the following guidelines.

Joint guidance is given for the introduction of the exam process.

A maximum of 4 tutoring hours of 45 minutes have been set aside for each group, excluding the joint tutoring for the introduction of the exam process.

Guidance is planned in collaboration with the supervisor. Trainees are responsible for expressing their need for guidance.

Trainees are not offered guidance after delivery of the written product.

### Foundation for the examination

The foundation for the examination is both teaching and literature from the subjects Maritime Law, Maritime Economics and Ship Design, as well as obtained learning objectives from practice in the company.

For further information, see the examination regulations for Danish Shipping Education

### Assessment foundation for the exam

Grades are given according to the 7-point danish grading scale. The assessment basis includes the written assignment with 2/3 of the total grade.

The final project is with external censorship

# Elaboration of the exam type

### Final project - written assignment

The subject of the final project must include the main academic subjects of the program Maritime Law, Maritime Economics and Ship Design, elements from the other subjects can also be a part of the final project.

The final project can be prepared in groups of 3-5 trainees. For a group of 3 trainees, the written assignment has a scope of a maximum of 25 standard pages (25 x 2400 characters including spaces), however, excluding front page, table of contents and appendices - and in addition max. 5 standard pages (5 x 2400 characters incl. Spaces) per Trainee is allowed. The examination is with individual assessment.

### The written assignment must contain the following elements:

- 1. Introduction
- 2. Problem statement and problem formulation
- 3. Reasoned theory, empirical and method choice
- 4. Empirical data from a job function/the company / companies' practice/maritime industry- an interdisciplinary, practice-oriented challenge
- 5. Analysis, where the points reflect encounters between theory and practice, and where these can bring each other dynamically into play and include mutual perspectives
- 6. Conclusion, which preferably contains forward-looking elements for concrete action
- 7. Any appendix to a limited extent.

Additional requirements for the written assignment are in accordance with the Executive Order on Examinations and Examinations, section 37, subsection. 1, that the basis for the assessment is the individual performance. This means that only the individually performance can be

made the subject of the individual assessment. Therefore, only the student's own prepared part of the assignment can be assessed. This means that the group-produced assignment must include a clear marking of which group member has prepared the assignment area. The parts of the assignment that the individual trainee has prepared form the basis for assessing the overall performance. It is advantageous to write the individual preparation in the table of contents of the assignment.

# Guidelines for the Final Project's written assignment

### **Author**

Each section is clearly marked with the trainee's name after the heading. The name is given in parentheses.

### Quotes

Mark quotes clearly so that the text indicates when the trainee's own words differ from someone else's words. This can be done by using:

- Quotation marks
- Italics
- Separate text block

Enter direct quotes with quotation marks. In addition, remember that a quote can never stand alone, but must substantiate its own text. There should always be a reference to a quote listed as, author name, year and page number. The source cited must appear in the bibliography.

### Front page

Contains information about trainees' name, subject, name and date of the educational institution. The front page may contain an illustration that illuminates the topic of the assignment. A title of the Essay can be stated on the front page.

### Length of final project

Maximum 25 standard pages (25 x 2400 characters including spaces), however excluding front page, table of contents and appendices - and can be expanded progressively by max. 5 standard pages (5 x 2400 characters incl. Spaces) per Trainee.

### Line spacing

1 1/2 is normal.

### **Bibliography**

A list of all sources used in the assignment.

### Margin

Left margin: 3.5 cm. Right margin: 2 cm.

### Normal side

A standard page contains about 2400 characters including spaces.

### Page number

All pages except the front page and table of contents are numbered and page numbers are entered in the table of contents. The page number is placed at the bottom right of the page. Page numbers can be set automatically in Word.

### **Fonts**

Times New Roman 12 pkt.

### **Headlines**

Headlines should:

- accurately show what the section is about
- make it easy to look up and find your way around your assignment
- show how your assignment is structured
- used in the table of contents
- marked in bold.

### Illustrations

Images, fact boxes, tables or similar illustrations may be used, which are used to:

- explain and support your text
- break a large text area in an assignment.

### Illustrations must have:

- numbering either above or below the illustration
- title / appropriate headline
- source indication just below the illustration.

Illustrations do not count in the assignment's total number of characters.

### The oral test

The oral exam is a group exam and with external censorship. It takes the form of an oral defense based on the final project. A total of 60 minutes per year is set aside for the examination, group by groups of 3. An additional 20 minutes per. additional group member. The examination period includes presentations, examination and voting. The examination follows Trainee's presentation as a dialogue. Trainees must therefore be open to the input that comes from the examiner and censor.

It is the examiner's responsibility to keep the time and dialogue going and to ensure that the student presents his or her main messages.

The examination interview includes the project's perspective and trainees' learning. Overall, the oral exam is divided into three parts as follows:

- 5 minutes for each presentation
- 2-30 minutes for examination interview (depending on group size)
- 15 minutes are set aside for the examiner's and examiner's voting as well as feedback for trainees.