

Translation: Only the Danish version is authentic

*Order no. 1326 of 17 December 2012 issued by
the Danish Agency for Higher Education and Educational Support*

Order on the training programme for master (restricted)

In pursuance of section 12(1) and section 13(1) of the act on maritime training programmes (*lov om maritime uddannelser*), cf. consolidated act no. 207 of 4 March 2011, as amended by act no. 478 of 30 May 2012, the following provisions are laid down:

Part 1

Purpose of the training programme

Section 1. The purpose of the training programme for master (restricted) is to qualify the student for functioning as a mate on board merchant ships engaged in trade on all seas as well as for being capable of acquiring competency as a master on ships below 3000 GT after having acquired the necessary duration of service.

Subsection 2. The training programme for master (restricted) shall meet the requirements of the International Convention on Standards of Training, Certification and Watchkeeping (the STCW Convention) so that it is possible to issue certificates for mates and masters, respectively, on ships below 3000 GT pursuant to regulation II/2 of the Convention.

Part 2

Objective of the training programme

Section 2. The training programme for master (restricted) is graded at level 4 in the Danish qualification framework for lifelong learning.

Subsection 2. The training programme shall develop the student focusing on management, safety, operation optimisation and internationalisation using English as the working language.

Section 3. The objective of the learning outcomes includes the knowledge, the skills and the competences that a master (restricted) is to acquire from the training programme.

Subsection 2. The learning objective related to knowledge is that the master (restricted) has

- 1) an understanding of the principles behind ships' design and equipment;
- 2) an understanding of mechanical engineering systems and installations on board ships engaged in trade on all seas;
- 3) an understanding of navigation, watchkeeping and meteorology in relation to the operation of ships below 3000 GT engaged in trade on all seas;
- 4) an understanding of the factors affecting a ship's stability and how to assess a ship's stability;
- 5) knowledge of principles of operational, wage and ship accounting;
- 6) an understanding of management, communication and cultural differences and the importance hereof to onboard cooperation and ship-to-shore cooperation;

- 7) knowledge of the environmental effects of shipping and how to protect the surrounding environment; and
- 8) knowledge of entrepreneurship in the form of basic concepts related to entrepreneurship and innovation.

Subsection 3. The learning objective related to skills is that the master (restricted) can

- 1) plan and carry out practical tasks on ships engaged in trade on all seas;
- 2) organise cargo handling and stowage;
- 3) operate a ship's systems and machinery in ships with a propulsion power below 750 kW in an appropriate manner in terms of safety;
- 4) perform the bridge and watchkeeping duty on board ships engaged in trade on all seas;
- 5) master the maritime English necessary for a mate and master of ships engaged in international trade;
- 6) master technical terms in oral and written communication within the fields of ship and watchkeeping duty and other maritime disciplines;
- 7) use information technology as a tool;
- 8) use relevant international and Danish regulations;
- 9) independently improve the ship's safety culture and the ship's general safety, including draw up, use and evaluate procedures;
- 10) use the ship's safety muster lists in both Danish and English;
- 11) perform the ship's administrative functions, including the documentation of importance to the ship's operation; and
- 12) perform the function as a fire leader.

Subsection 4. The learning objective related to competences is that the master (restricted) can

- 1) independently perform the function as a mate in all ships and as a master in ships below 3000 GT engaged in trade on all seas;
- 2) perform the management tasks, including evaluate and improve routines and work procedures in ships engaged in trade on all seas;
- 3) independently acquire knowledge and be active in his own learning as well as take part in the development of new processes;
- 4) cooperate and show responsible behaviour as well as social flexibility;
- 5) promote efficiency, motivation and cooperation between crew members;
- 6) assume responsibility for the ship's fire safety;
- 7) perform the function as the person responsible for safety and the environment in ships engaged in trade on all seas;
- 8) assume the responsibility for environmentally sound ship operation, including energy efficient operation and reduction of emissions from ships; and
- 9) acquire the relevant information for solving the tasks on board.

Subsection 5. After having completed the training programme, the student shall meet the requirements of the STCW Convention in accordance with the qualification requirements of the Danish Maritime Authority hereon regarding

- 1) watchkeeping on the bridge, including full mission training, cf. table A-II/1 of the STCW Code;
- 2) automatic radar plotting aids (ARPA), cf. table A-II/1 of the STCW Code;
- 3) electronic chart display and information system (ECDIS), cf. table A-II/1 of the STCW Code;
- 4) General Operator's Certificate (GOC) in accordance with the Global Maritime Distress and Safety System (GMDSS), cf. regulation IV/2 of the STCW Convention;

- 5) fire-fighting on ships, cf. regulation VI/3 of the STCW Convention;
- 6) operation of lifeboats, liferafts and rescue boats, cf. regulation VI/2, paragraph 1, of the STCW Convention;
- 7) the theoretical basis for being issued with a certificate in basic training for oil, chemical and gas tankers, cf. regulation V/1-1, paragraph 2.2, and regulation V/1-2, paragraph 2.2, of the STCW Convention;
- 8) security preparedness and special security tasks in ships, Ship Security Officer, cf. regulation VI/5, paragraph 1.2, of the STCW Convention; and
- 9) maritime medical examiner training programme for medicine chest category A;
- 10) certificate of proficiency in motor operation; and
- 11) occupational health course for members of the safety group in merchant ships.

Part 3

Arrangement of the training programme

Section 4. The training programme shall be arranged with an increasing degree of difficulty and complexity through the education.

Subsection 2. New national and international knowledge and new methods of relevance to masters (restricted) shall be incorporated into the teaching.

Subsection 3. The teaching shall be arranged so that correlation is created between theory and the practical experience gained from the student's duration of service.

Subsection 4. Varied study forms shall support the student's development of independence and interpersonal skills as well as his ability to be innovative.

Section 5. The training institution shall be responsible for carrying out the training programme in its entirety, including any outsourced teaching.

Part 4

Duration of the training programme

Section 6. The official length of the training programme for master (restricted) is 1.5 student full time, corresponding to 90 credits in the European Credit Transfer System (ECTS credits).

Subsection 2. For students who have passed the exam as a skipper (3rd class) on fishing vessels or master (home trade), the training programme for a master (restricted) has an official length of 60 ECTS credits. This shall not include any time spent on a maritime preparatory course, cf. section 9(2).

Section 7. The training programme shall be completed within the number of years corresponding to twice the prescribed duration, cf. section 6.

Subsection 2. The training institution may, when justified by special conditions, grant exemptions from the time-limit stipulated in subsection 1.

Section 8. Leave applied for shall be accepted if reasoned by maternity/paternity leave, adoption, documented illness, military service, UN service or the like.

Part 5
Admission

Section 9. The training institution shall admit the students to the training programme for master (restricted) and ensure that they meet the admission requirements.

Subsection 2. Students at the training programme for master (restricted) shall have passed the tenth grade leaving exam of the Danish Folkeskole in the subjects Danish, English, mathematics physics and chemistry and at least acquired the exam mark 02 according to the 7-point marking scale or the mark 6 according to the 13-point marking scale in each subject or have passed the maritime preparatory course.

Subsection 3. In order to be admitted to the training programme for master (restricted), the applicant shall:

- 1) have completed the basic course for ship's assistants combined with 12 months' duration of service as an apprentice mate or 18 months' duration of service as an ordinary ship's assistant;
- 2) have completed the final course for ship's assistants combined with 15 months' duration of service as an ordinary ship's assistant;
- 3) have completed vocational training within the iron and metal industries and the ship's assistant training programme for persons holding a certificate of apprenticeship combined with 12 months' duration of service as a ship's assistant;
- 4) have completed a training programme as a ship's mechanist; or
- 5) have acquired 36 months' relevant duration of service in merchant ships with a gross tonnage of or above 20 before 1 February 2002 as well as have completed approved basic training meeting the requirements of regulation VI/1 of the STCW Convention and section A-VI/1, paragraph 2, of the STCW Code on "Basic Training".

Subsection 4. A minimum of 12 months of the duration of service required in subsection 3 shall have been acquired in merchant ships with a gross tonnage of or above 500, of which 6 months shall have been acquired in ships engaged in non-home trade.

Subsection 5. Regardless of the requirement for duration of service stipulated in subsections 3 and 4, it may be permitted – in consideration of the continuity of a person's studies – for persons meeting the requirements in force for acquired duration of service to be admitted to the training programmes for master (home trade) or skipper (3rd class) on fishing vessels to continue the training programme for master (restricted).

Subsection 6. In order to be admitted to the training programme for master (restricted), the applicant shall furthermore:

- 1) hold a valid health certificate for seafarers and fishermen without limitations;
- 2) be fit for lookout duty;
- 3) hold a watchkeeping certificate; and
- 4) have completed practical training during the duration of service as described in a training record book approved by the Danish Agency for Higher Education and Educational Support; however, not as regards persons covered by subsection 3(v).

Subsection 7. A person admitted to the training programme for skipper (1st class) on fishing vessels may, at the same time, participate in the training programme for a master (restricted).

Part 6
Course regulations

Section 10. The training institution shall, in the course regulations, stipulate the regulations and guidelines governing the arrangement and implementation of the teaching. The course regulations shall contain a description of how the training institution, when arranging the training programme, meets part 3 of this order, the contents stipulated in annex 1 as well as the requirements of the STCW Convention so that it is possible to issue certificates pursuant to parts II/2 of the Convention.

Subsection 2. Furthermore, the course regulations shall contain provisions on the following:

- 1) the purpose of the training programme;
- 2) the structure and arrangement of the training programme, including modules and ECTS credits;
- 3) types of teaching and cooperation;
- 4) cooperation with the industry and other training institutions;
- 5) syllabuses;
- 6) examinations and the types of evaluation used;
- 7) study activity;
- 8) credit transfer;
- 9) leave; and
- 10) exemptions.

Subsection 3. It shall be evident from the course regulations that the institution may grant exemptions from the provisions in the course regulations that have been laid down solely by the institution as such.

Subsection 4. It is presupposed that the course regulations and important amendments hereof are drawn up by acquiring inspiration from the two sides of industry.

Section 11. Course regulations and important amendments hereof shall enter into force at the start of a semester.

Subsection 2. Course regulations and important amendments hereof shall contain interim provisions.

Subsection 3. The course regulations in force shall be available from the webpage of the institution and documented in the quality assurance system of the training institution.

Part 7

Examination and examination certificates

Section 12. As regards examinations and evaluations, reference is made to the order on the holding of tests and the evaluation of students at the maritime training programmes in force (the examination order).

Subsection 2. The training institution shall issue exam certificates when:

- 1) the student has completed the entire training programme;
- 2) passed the final exams; and
- 3) acquired the duration of service required to acquire a certificate of competency where the exam certificate is required.

Subsection 3. If the student has not acquired the necessary duration of service, cf. section 9(3) and (4), the student may be issued with a statement certifying that he has passed the exam.

Subsection 4. Following the acquisition of sufficient duration of service on merchant ships, it shall be possible to convert the statement into an exam certificate so that it can form the basis of the issuance of a certificate of competency to merchant ships.

Subsection 5. Persons who have also completed the training programme as a ship's mechanist may acquire an exam certificate as a Dual Purpose Officer 3000 (DP 3000).

Part 8

Teacher qualifications

Section 13. The teachers at the training programmes shall, in general, have a level of qualification higher than the exit level for the training programmes. Qualification level shall mean educational competence and documented theoretical, expert and professional competence.

Subsection 2. New teachers shall, within the first three years of employment, have passed a relevant adult education training programme corresponding to 30 ECTS credits, which may be acquired through a combination of theoretical teaching and follow-up at their own training institution.

Part 9

Other provisions

Section 14. Decisions made by the training institutions in accordance with this order may be brought before the Danish Agency for Higher Education and Educational Support by the one affected by the decision, cf. the order on complaints related to the act on maritime training programmes, as amended. The complaint shall be submitted to the training institution, which shall send on the complaint to the Danish Agency for Higher Education and Educational Support accompanied by a statement. The training institution shall give the plaintiff an opportunity to comment on the statement within a time-limit of at least one week. Any comments from the plaintiff shall accompany the complaint when sent to the Danish Agency for Higher Education and Educational Support.

Subsection 2. The time-limit for filing complaints under subsection 1 shall be two weeks from the day when the plaintiff was informed of the decision.

Subsection 3. Decisions made by the Danish Agency for Higher Education and Educational Support pursuant to this order shall not be brought before any higher administrative authority.

Section 15. The Danish Agency for Higher Education and Educational Support may allow deviations from the order as part of experiments. At the same time, the duration and reporting form of the experiment shall be determined.

Subsection 2. The Danish Agency for Higher Education and Educational Support may grant exemptions from the order when special conditions give reason for this.

Part 10

Entry into force and interim provisions

Section 16. This order shall enter into force on 1 January 2013.

Subsection 2. Students who have initiated the training programme before 31 December 2012 may complete the training programme in accordance with the provisions in force until now.

Subsection 3. The training institutions shall arrange for the necessary interim programs for students mentioned in subsection 2 who want to finalise their training programme according to this order.

Danish Agency for Higher Education and Educational Support, 17 December 2012

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Description of the contents of the training programme for master (restricted)

Interdisciplinary elements (3 ECTS credits)

The interdisciplinary work shall help strengthen the student's independent handling of problems that he may encounter after having finalized the training programme. At the same time, the work shall develop the student's ability to evaluate and improve work elements, processes and procedures.

In the interdisciplinary work, practical situations are simulated that the student will encounter in his working life where it will not necessarily be possible to separate the subjects. Interdisciplinary elements are, therefore, suitable for exercises and project work.

Navigation and watchkeeping service (29 ECTS credits)

The student shall, through the instruction in navigation, watchkeeping and meteorology, be qualified to function as a mate and master on board merchant ships and be able to function as a watchkeeping engineer officer in ships below 750 kW where there is no engine crew.

Subject: Navigation

Test requirements: Exam.

Central themes:

1. Positioning – determine the ship's position using distinctive marks at sea and ashore, astronomical navigation, reckoning, shipboard navigation equipment (in international trade).

2. Navigation equipment – use of magnetic and gyro compasses, including the determination of indication errors in these; radar and ECDIS, ARPA simulator course, use of common navigation equipment for ships engaged in international trade.

3. Charts and manuals – maintaining the stock of charts and manuals, including electronic updating (ECDIS), planning and carrying out ships' safe voyages, use of ship's logs, aids to navigation and IAMSAR, tidal conditions.

4. Manoeuvring – ships' manoeuvring characteristics and abilities, mooring and anchoring and theoretical and practical handling of rescue situations.

Subject: Watchkeeping

Test requirements: Exam.

Central themes:

1. Regulations for preventing collisions at sea – international regulations for preventing collisions at sea, special national regulations, including safe navigation in Danish waters.

2. Collision prevention – radar and ARPA taking full account of the international regulations for preventing collisions at sea and the watchkeeping order, situational assessment and carrying out manoeuvres for preventing collisions.

3. Watchkeeping procedures – the watchkeeping order, ship's logs, checklists, procedures and instructions, full mission bridge training, cf. the qualification requirements in force.

4. Communication – distress and rescue signals, English terminology for watchkeeping terms, ship reporting systems and VTS.

5. Visual signalling – international code of signals, safe use of one-letter signals, distress signals, including SOS transmitted using light.

Subject: Meteorology

Test requirements: Exam.

Central themes:

1. Weather systems – characteristics of various weather systems, meteorological phenomena, sea currents, etc.

2. Retrieval of information – common meteorological instruments and relevant meteorological information, retrieval and transmission of meteorological information.

3. Voyage planning – special meteorological conditions for specific sea areas necessary for planning and carrying out a ship's safe voyage.

ADMINISTRATION, MANAGEMENT AND COMMUNICATION (22 ECTS credits)

Subject: Maritime law and administration

The student shall, through the instruction in the provisions of the seamen's act and the merchant shipping act, qualify to function as a mate and master on board ships up to 3000 GT engaged in trade on all seas. Furthermore, the student shall be engaged in basic principles related to ship and wage accounting and basic operating economy for ships up to 3000 GT necessary for functioning as a master on board these ships. Finally, the student shall acquire a wide knowledge of the use of computers, including programmes and equipment for technical and administrative purposes on board ships.

Test requirements: Exam.

Central themes:

- 1. Employment law** – the provisions of the seamen's act on service contracts, the ship service, disputes about conditions of service and penalty provisions as well as conditions related to occupational injuries.
- 2. Maritime law and the obligations of the master** – cargo documents, conditions of authority for the master and cargo owner, maritime insurance and requirements for ship's manning as well as maritime inquiries, police authority as well as other authority tasks, inward and outward clearance.
- 3. Technical operation and administration** – survey, ships' classification, certification and port State control.
- 4. The ISM Code** – ISM (International Safety Management), occupational health legislation and pollution prevention.
- 5. Administration, accounting and acquisition** – document management of the ship's certificates and drawing up written reports, inward and outward clearance in domestic trade.
- 6. Computers** – the use of administrative computer programmes on board the vessel as well as information retrieval and ship-to-shore communication.

Subject: Maritime management

The student shall, through the instruction, qualify for taking care of the operational management on board. The student shall, furthermore, be trained within management, communication and cultural differences, including the importance of the crew's cultural backgrounds to onboard cooperation and ship-to-shore cooperation.

Test requirements: Internal test.

Central themes:

- 1. Operation optimisation** – costs in connection with the operation of a ship and how to minimize them.
- 2. Energy efficient operation** – efficient use of resources in connection with ship operation.
- 3. Planning and organising day-to-day ship operation** – distribution of work and duty rosters in consideration of the provisions on hours of rest and the human resources on board.
- 4. Crew management** – the importance of other countries' social values and custom, the mental working environment and conflict management.
- 4. Entrepreneurship** – entrepreneurship, innovation and development of new processes.

Subject: English

The student shall, through the instruction, qualify to be able to use maritime English at the level necessary for mates and masters of ships engaged in international trade. This means that the student is able to use English as his working language, including read English publications, understand messages concerning the ship's safety and navigation and express oneself clearly both orally and in writing when exchanging messages over the ship's communication systems. Finally, the student shall be able to draw up written instructions and guidelines in English so that they can be used by a multilingual crew.

Test requirements: Exam.

Central themes:

- 1. Maritime English** – IMO's maritime standard phrases and English technical manuals.
- 2. Safety communication** – safety muster lists, safety information, markings, escape routes and alarm signals.
- 3. Daily communication** – concerning the ship's safety, operation and watchkeeping duty, especially with a view to using a multilingual crew.
- 4. Administrative communication** – inward and outward clearance, chartering and cargo-related documents.
- 5. Documentation** – instructions, reports and project work.

Subject: Communication

The student shall, through the instruction in communication, qualify to be able to carry out the radio communication occurring in connection with a bridge watch on board a merchant ship engaged in international trade.

Test requirements: Exam as well as a course in General Operator's Certificate in GMDSS (GOC), cf. the qualification requirements in force.

Safety, health and maritime security (13 ECTS credits)

Subject: Safety and environmental protection

The student shall, through the instruction in safety and environmental protection, qualify to perform the function as the person having the safety and environmental responsibility on board a ship engaged in international trade.

Test requirements: Internal test.

Central themes:

- 1. Environmentally sound ship operation and pollution prevention** – pollution prevention, including relevant procedures, protection of the surrounding environment.
- 2. Handling emergencies** – measures related to the protection of those on board, decision techniques and risk assessment, handling losses.
- 3. Maritime safety management** – safety communication, creating a safety culture and prevention, arranging and carrying out instructions of those on board about the ship's safety, environmental protection and occupational safety, including inspection of emergency and safety equipment as well as personal protective equipment as well as maintenance hereof.
- 4. Operation of lifeboats, liferafts and rescue boats** – planning and carrying out safety drills on board, cf. the qualification requirements in force.
- 5. SMS (Safety Management System)** – drawing up, using, evaluating and revising the ship's safety instructions and procedures.
- 6. Occupational health course for members of the safety group on board merchant ships** – the establishment of a ship's safety organisation, cf. the qualification requirements in force.

Subject: Fire-fighting and fire management

The student shall, through the instruction in fire-fighting, qualify to be able to operate and maintain the ship's fire-fighting and smoke-diver's equipment in accordance with the guiding manuals available. Furthermore, the student shall be able to function as a fire manager on board a ship.

Test requirements: Completed course in fire-fighting for ships, cf. the qualification requirements in force.

Central themes:

- 1. Organisation of fire-prevention** – assessment of the fire-prevention in relation to work situations, ensuring appropriate handling of combustible substances and naked fire.
- 2. Instructions concerning fire preparedness** – drawing up, maintaining and presenting instructions to the crew.
- 3. Fire-fighting and evaluation of the fire preparedness** – planning, organising and managing fire-fighting as well as subsequent evaluation and improvement of the fire preparedness.

Subject: Maritime security

The student shall, through the instruction, qualify to function as a maritime security officer. The student shall have knowledge of conditions of capture and the reactions hereto.

Test requirements: Completed course as a maritime ship security officer (SSO), cf. the qualification requirements in force.

Subject: Medical examiner training programme

The student shall, through the medical examiner training programme, qualify to be able to function as a medical examiner on board ships that shall be provided with a medicine chest category A.

Test requirement: Completed medical examiner training programme for medicine chest category A, cf. the qualification requirements in force.

Ship engineering and mechanical engineering (23 ECTS credits)

Subject: Ship construction and cargo handling

The student shall, through the instruction in ship construction, cargo handling and stowage, qualify to function as a mate and master on ships on all sea, including assume the responsibility for the cargo handling in a small merchant ships. The student shall be able to use international maritime conventions, including especially SOLAS, MARPOL and the International Load Line Convention, in connection with practical problems.

Test requirements: Exam as well as basic tanker familiarization course, cf. the qualification requirements in force.

Central themes:

- 1. The construction of ship types** – arrangement, equipment and characteristics.
- 2. Stability** – centre of gravity, centre of buoyancy, draught and trim as well as calculation of the ship's position on the water, factors affecting a ship's stability, including the effects of the wind, the sea and free liquid surfaces.
- 3. Stresses on the ship and its equipment** – assessment of whether the ship or parts of its equipment will be overloaded in case of local stresses.
- 4. Corrosion of the ship and its equipment** – the effect of corrosion on the ship's seaworthiness, assessment of the corrosion as well as planning the corrosion protection on board.
- 5. Loss of ship** – handling the ship, cargo and crew.
- 6. Maintenance and docking** – maintenance of hatches, winches, loading and unloading gear, as well as planning and carrying out dockings.
- 7. Reports on ship's condition, etc.** – report of damages to the ship's cargo hold, cargo hatches and ballast tanks, necessary measures in consideration of the ship's safety.
- 8. Cargo handling in general and where the cargo constitutes a safety or environmental risk** – loading, unloading, stowage, securing and storing the cargo in accordance with procedures as well as carrying out the necessary instructions of those on board, including on the use of safety and protection equipment.

9. International regulations on dangerous goods – the IMDG Code, the IMSBC Code, and their practical application.

10. Computer programmes – stability and cargo handling.

Subject: Mechanical engineering and maritime technology'

The student shall, through the instruction in mechanical engineering and maritime technology, qualify to be able to perform the operation of ship machinery of up to 750 kW in an appropriate manner in terms of safety on board ships where there is no requirement for an engine crew. Furthermore, the student shall, through the instruction in technical systems and system understanding, qualify to be able to act rationally and correctly and localise and remedy simple defects in common technical, electrical and hydraulic systems on board ships

Test requirements: Internal test as well as test for certificate of proficiency in motor operation, cf. the qualification requirements in force.

Central themes:

1. Ship machinery – manoeuvring and navigation systems, propulsion machinery, fuel system, lubricating oil system, refrigerating system, tank system, bilge system, alarm system.

2. Deck equipment – hydraulic and electrical winches.

3. Electrical systems – generators, shaft generators and emergency power systems and correct operation of these systems as regards safety.

4. Maritime computer systems and programmes – systematic maintenance, stability and cargo handling as well as integrated ship control.