

Ordinance
Pursuant to Vocational Training in Maritime Shipping
(Maritime Vocational Training Ordinance – “See-BAV”)

As of September 10th 2013

This Ordinance has been translated from German. As a result, the German version is the legally binding version.

The Federal Ministry of Transport, Building and Urban Development decrees, on the basis of

- § 92 of the Seearbeitsgesetz “German Maritime Labour Act” of April 20th 2013 (BGBl. [Federal Gazette] I p. 868) in conjunction with the Federal Ministry of Education and Research and after consulting those highest State Authorities of the Coastal States responsible for matters of vocational training and of
- § 9 Paragraph 1 Clause 1 Number 3 in conjunction with Clause 2 and with Paragraph 2 Clause 3 of the Seeaufgabengesetz (“Federal Maritime Responsibilities Act”) as published on July 26th 2002 (BGBl. I p. 2876), of which § 9 Paragraph 1 Clause 1 Number 3 was most recently reworded in the shape of Article 2 Paragraph 1 Number 6 of the Act of April 20th 2013 (BGBl. I p. 868), § 9 Paragraph 1 Clause 2 last amended by Article 2 Number 9 of the Act of June 4th 2013 (BGBl. I p. 1471) and § 9 Paragraph 2 Clause 3 replaced by Article 2 Paragraph 1 Number 6 of the Act of April 20th 2013 (BGBl. I p. 868), in consensus with the Federal Ministry of Labour and Social Affairs and the Federal Ministry of Food, Agriculture and Consumer Protection:

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Section 1

General Stipulations

§ 1

Definition of Concepts

(1) “STCW-Convention” refers to the International Convention of 1978 on Standards of Training, Certification and Watchkeeping for Seafarers (BGBl. 1982 II, pp. 297, 298) in their current versions.

(2) "STCW-Code" refers to the amendments to the annexes to the Convention that were accepted as per resolution 2 of the Final Act of the Member States of the International Maritime Organisation on July 7th 1995 (BGBl. 1997 II S. 1118, Volume of Annexes) in its current version.

(3) "Support Level" refers to that level of responsibility at which a crew member typically undertakes the duties, obligations and responsibilities assigned to him/her at the instructions of the captain or a ship's officer.

§ 2

Occupational Title, State Recognition

The trained occupation of Ship's Mechanic (male/female) in the maritime industry is one that is state-recognised.

§ 3

Duties of the Responsible Bodies

The Berufsbildungsstelle Seeschiffahrt e. V. (Responsible Body for Maritime Vocational Training)

1. monitors the vocational training including that part of said vocational training that takes place outside the training locations in accordance with § 10 and supports them by way of advising the Apprentices,
2. sets up a register of vocational training relationships,
3. reviews the Apprenticeship Agreements in accordance with § 81 of the German Maritime Labour Act and enters the essential contents thereof and any amendments where applicable in the register referred to in point 2,
4. recognises, upon application by the training ships, said ships as suitable training locations according to their nature and equipment provided the requirements of § 8 are fulfilled and
5. supports the Bundesamt für Seeschiffahrt und Hydrographie ("Federal Maritime and Hydrographic Agency") in the task of recognising apprenticeship records and certificates of competence from other countries, inasmuch as skilled professions belonging to the deck or engine room departments are affected.

Section 2

Practical Vocational Training

§ 4

Length of Training

- (1) The vocational training shall last three years.
- (2) In order that the aim of the training might be achieved, the responsible body may, should an Apprentice submit a corresponding application, prolong the length of the vocational training should this be necessary after consulting with both the Apprentice and the training employer.
- (3) Should the vocational training be suspended for more than eight weeks during an apprenticeship year, the training shall be prolonged in the apprenticeship year in question by a period corresponding to that of the interruption.

§ 5

Vocational Training Description

The following capabilities, knowledge and skills are the object of the vocational training:

1. Integrative capabilities, knowledge and skills:
 - a) Principles of social competence, vocational training, labour and tariff law,
 - b) Structure and organisation of the shipping company and operation of ships,
 - c) Occupational safety and health protection, first aid measures,
 - d) Planning and preparation of workflows as well as reviewing and assessing the results of the work,
 - e) Reading, application and compilation of technical documents,
 - f) Security duties
 - g) Communication during shipping operations in the German and the English languages,
 - h) Environment protection and rational use of energy and materials;
2. Capabilities, knowledge and skills that sharpen the vocational profile:
 - a) Ship management on deck, watch duty
 - b) Ship management in the engine room, watch duty,
 - c) Loading and unloading operations,
 - d) Safety with regard to fire-fighting and rescue,
 - e) Ship operation technology, electro-technology, control technology and electronics,
 - f) Maintenance and repairs,
 - g) Processing of metals.

§ 6

Master Training Plan

The capabilities, knowledge and skills specified in § 5 should, in accordance with the syllabus and time schedule for the vocational training outlined in Annex 1 (Master Training Plan), be communicated in such a manner that Apprentices are rendered capable of pursuing a qualified vocational activity which includes in particular independent planning, implementation and reviewing at one's own place of work. Such capability is also to be proven in the examinations in accordance with §§ 14 and 15.

§ 7

Training Employer, Instructor

(1) Irrespective of those requirements that may be derived from the following stipulations, only those ship's officers and ship's mechanics may be appointed as instructors who have demonstrably received training in the following partial fields of vocational and occupational training:

1. General principles of vocational training in the maritime industry,
2. Planning of vocational training on board and ashore and
3. Implementation of vocational training on board ship.

(2) The permanent address of the training employer or of the company directly commissioned with the task of implementation of the training must be in this country. Apprentices may only be taken on by those who are personally suitable for the task. Apprentices may only be trained by those who are personally and professionally suitable for the task.

(3) Anyone who is not suitable for the task or who does not actually implement the training himself may only take on Apprentices if he appoints personally and professionally suitable instructors who impart the lessons of the vocational training on the facility directly, responsibly and to a significant extent.

(4) Someone who is not a training employer himself but who, by way of deviation from the particular requirements of Paragraph 7, possesses the capabilities, knowledge and skills necessary for imparting the lessons of the vocational training and is personally suitable for the task, may cooperate in the vocational training at the responsibility of the instructor.

(5) Personally not suitable for the tasks are deemed in to be in particular any persons who:

1. are not permitted to employ children and adolescents or
2. are guilty of repeated or grave breaches of this ordinance

(6) Those persons are deemed to be professionally suitable for the task who possess the professional and pedagogical capabilities, knowledge and abilities that are necessary in order to be able to impart the lessons of the training.

(7) Those persons are deemed to possess the necessary professional capabilities, knowledge and skills who have been working in their professions for a suitably lengthy period of time and

1. have passed the final examination in a subject area appropriate to the profession in question or
2. have passed a recognised examination with a training location or in front of an examining body or a final examination at a state or state-recognised school in a subject area appropriate to the profession in question or
3. have passed a final examination at a German Technical College or training location deemed to be equivalent to such a college in another member state of the European Union or any other state that is a party to the Convention pursuant to the European Economic Area in a subject area appropriate to the profession in question.

An appropriate period of practical experience is deemed given when it may be expected that the instructor, due to his personal and professional maturity, is the position of being able to impart to an Apprentice those capabilities, knowledge and skills necessary for the profession in question.

§ 8

Training location Ship

A ship is to be recognised by the responsible body as a training location if the following criteria are fulfilled:

1. the Flag State of the ship is the Federal Republic of Germany or any other contractual party to the international law agreements accepted in the context of the International Maritime Organisation and the International Labour Organisation, which contain universally recog-

nised international rules and standards in connection with the maritime industry,

2. the Apprentices, with regard to general prescriptions of labour, social and youth protection laws, are guaranteed the same level of protection as in a Member State of the European Union,
3. the responsible authorities of the foreign Flag State have declared in writing their consent to the monitoring of the implementation of the vocational training by the responsible body,
4. the ship has been classified by a classification society that is recognised according to the criteria of the Directive 2009/15/EC of the European Parliament and the Council dated April 23rd 2009 pursuant to common prescriptions and standards for ship inspection and monitoring organisations and the relevant measures of the maritime authorities (revised version (ABl. (official gazette) L 131 dated May 28rd 2009, p. 47) in its version applicable at a given time in Germany and
5. there are at least two German-speaking instructors as defined in § 7 on board who have been explicitly charged with the implementation of the vocational training, one of whom should be a ship's mechanic.

§ 9

Suitability of the Training locations

(1) Apprentices may only be taken on and trained if

1. the training location is suitable für the purpose of vocational training with regard to both its nature and equipment as defined in § 8,
2. the number of Apprentices is in a reasonable proportion to the number of Apprentice workplaces or the number of skilled workers employed, unless the vocational training should not be endangered should this not be the case and
3. in the event of training taking place on board a ship that does not fly the flag of the Federal Republic of Germany, the specific requirement of Paragraph 3 is fulfilled.

(2) A training location in which the required vocational capabilities, knowledge and skills cannot be imparted in full shall be deemed suitable if the missing capabilities, knowledge and skills are imparted in training measures conducted outside the training location.

(3) Inasmuch as the training should take place on board a ship of any other contractual party to the international law agreements accepted in the context of the International Maritime Organisation and the International Labour Organisation, which contain universally recognised international rules and standards in connection with the maritime industry, the owner of the ship must, before the training begins, enter into an undertaking towards the responsible body to apply German law to the training and to agree upon this with the Apprentice in the latter's Apprenticeship Agreement.

(4) The responsible body shall be required to monitor whether the suitability of the training location and the personal and professional suitability as defined in § 7 are given.

(5) Should shortcomings pertaining to suitability be established, the responsible body shall be required to demand from the person implementing the training that these shortcomings should be rectified within a set period. Should it not be possible to rectify said shortcomings or should they not have been rectified within the period set, the responsible body shall be required to ban the taking on and training of Apprentices.

(6) Before any such ban, those involved are to be granted a hearing according to the provisions of § 28 of the Administrative Procedure Act.

§ 10

Vocational Training outside the Training location ship

(1) The responsible body monitors the implementation of the off-board training on the basis of the Master Training Plan inasmuch as the required capabilities, knowledge and skills cannot be fully imparted in the training location itself. Training outside the training location is to be devised in a manner taking into account the Apprentice's obligation to attend at maritime vocational school.

(2) The off-board training in metalwork is part of the in-company vocational training in the first year of the Apprenticeship according to Annex 2. It is to be organised and implemented in accordance with the maritime vocational school for Apprentices.

(3) The off-board training in safety on board ship pursuant to fire-fighting and rescue as well as security duties is part of the in-company training according to Annex 3. These are to be implemented at the beginning of the training at a maritime vocational school. In order that the certificates of competence in accordance with the regulations VI/1 and VI/6 of the Annex to the STCW Convention might be acquired it is necessary that the training standards according to Sections A-VI/1 and A-VI/6 of the STCW-Code should be fulfilled.

(4) The duration of the off-board training shall be:

1. in metalworking, 280 hours in seven weeks and
2. in fire-fighting and rescue and security duties, 80 hours in two weeks.

§ 11

Apprenticeship record

(1) The apprenticeship record serves the purpose of proving practical training and time at sea accordance with Sections A-II/1, A-II/5, A-III/1 and A-III/5 of the STCW Code in conjunction with regulation VII/2 of the Annex to the STCW Convention. It is composed of the company training plan and the confirmation of activity. The apprenticeship record is to be signed by the Apprentices and countersigned by the training employer.

(2) The in-company training plan is to be conducted by the training employer as a proof of training and assessment according to the regulation I/6 of the Annex to the STCW Convention and signed by the training employer.

(3) A record of activity is to be kept in writing by the Apprentice as proof of his training. He is to be granted the

opportunity of keeping a record of this during his working hours. The record of activity is to be signed by the Apprentice and countersigned by the instructors regularly at the end of the Apprentice's period of seagoing service on board.

§ 12

Testimony to Service on Board

Those providing training are to issue Apprentices with a testimony to training on board at the end of each period of service on board, at the every least, however, one testimony for each year of training. This should contain details of the nature and duration of the vocational training and the capabilities, knowledge and skills acquired by the Apprentices.

Section 3

Examinations

§ 13

Final Examinations

(1) The final examination consists of Parts 1 and 2 that are taken at different times and are free of charge for Apprentices. The aim of the final examination is to establish whether the candidate has acquired professional competence. In the final examination the candidate shall be required to prove that he has mastery of the necessary vocational capabilities, possesses the essential knowledge and skills and is familiar with the subject matter being taught. The final examination may be retaken twice.

(2) The final examination is deemed to have been passed if, with regard to the manufacturing of the examination pieces and execution of the work samples (practical examination) and the written examination, a grade of "adequate" at least shall have been achieved in each one.

(3) For the purpose of determining the overall result of the practical examination and the written examination, Part 1 of the final examinations shall be weighted at 35 per cent and Part 2 at 65 per cent.

(4) After the final examinations have been passed the candidates are to be issued with a final certificate according to the pattern designated by the responsible body.

§ 14

Final Examination Part 1

(1) Part 1 of the final examination should be taken at the earliest three months before and at the latest three months after half the term of the Apprenticeship as defined under § 4, any prolongation of the training in accordance with § 4 Paragraph 2 or 3 is to be taken into account thereby. It shall cover the capabilities, knowledge and skills listed in Annex 1 for the first year of vocational training including the requirements according to Sections A-II/4, A-III/4 and A-VI/2 Paragraph 1 of the STCW-Code and the subject matter being taught in the maritime vocational school according to the framework syllabus.

(2) The responsible body shall admit to Part 1 of the final examination all those who have duly completed the training period according to Paragraph 1 and have kept the record of their training times that is decisive in accordance with § 11 for being permitted to take the examination.

(3) Candidates shall, in a total period of, at most, 270 minutes, be required to manufacture two examination pieces and, in a total period of, at most, 200 minutes perform three pieces of specimen work. These are:

1. Examination pieces in the fields of
 - a) Ship operation engine, engine-room watch at the support level,
 - b) Processing of metals (manufacturing technology);
2. as specimen pieces of work in the fields of
 - a) Ship operation deck, navigational watch at the support level,
 - b) Fire-fighting
 - c) Rescue.

(4) Candidates shall be required, within a total time of 265 minutes, solve in writing problems that should involve practice-related cases. From the following fields in particular:

1. Ship operation deck, navigational watch at the support level,
2. Ship operation engine, engine-room watch at the support level,
3. Loading and unloading operations at the support level,
4. Fire-fighting,
5. Rescue
6. Ship operating technology, electro-technology, control technology and electronics at the support level,
7. Repair work, in particular maintenance, inspection and overhauling at the support level,
8. Processing of metals (manufacturing technology)
9. Professional background and framework legal conditions with regard to security duties, economics and social sciences.

(5) In order to acquire the proofs of competence according to rules II/4, III/4 and VI/2 Paragraph 1 of the Annex to the STCW Convention, the examination pieces and the specimen work according to Paragraph 3 Number 1 lit. a, Number 2 lit. a and lit. c and Paragraph 4 Numbers 1, 2 and 5 must each achieve a grade of "adequate" at the least.

§ 15

Final Examination Part 2

(1) The responsible body shall admit to Part 2 of the final examination all those:

1. who have duly completed the training period in full or whose period of training ends no later than two months after the examination date,
2. who have taken part in Part 1 and kept the record of their training times in accordance with § 11 for the entire period of their training,
3. who possess the certificates prescribed in § 12,
4. whose Apprenticeship Agreements have been entered in the register or whose registration has not been effected for reasons for which neither the Apprentice nor his legal representative bear the responsibility.

(2) Part 2 of the final examinations shall cover the capabilities listed in Annex 1 including the requirements accord-

ing to Sections A-II/5, A-III/5, A-VI/1 and A-VI/2 Paragraph 1 of the STCW-Code and the subject matter being taught in the vocational college classes according to the framework syllabus.

(3) Candidates shall, in a total period of, at most, 600 minutes, be required to manufacture four examination pieces and, in a total period of, at most, 130 minutes perform four pieces of specimen work. These are

1. Examination pieces in the fields of
 - a) Ship operation engine, engine-room watch at the support level,
 - b) Ship operating technology, electro-technology, control technology and electronics at the support level
 - c) Repair work, in particular maintenance, inspection and overhauling at the support level,
 - d) Processing of metals (manufacturing technology);
2. as specimen pieces of work in the fields of
 - e) Ship operation deck, navigational watch at the support level,
 - f) Loading and unloading operations at the support level,
 - g) Fire-fighting
 - h) Rescue.

(4) Candidates should, in a maximum time of 360 minutes, solve in writing problems that should involve practice-related cases, from the following fields in particular:

1. Ship operation deck, navigational watch at the support level,
2. Ship operation engine, engine-room watch at the support level,
3. Loading and unloading techniques at the support level,
4. Fire-fighting,
5. Rescue,
6. Ship operating technology, electro-technology, control technology and electronics at the support level,
7. Repair work, in particular maintenance, inspection and overhauling at the support level,
8. Processing of metals (manufacturing technology)
9. Professional background and framework legal conditions with regard to security duties, economics and social sciences.

(5) At the application of the candidate or if so ordered by the examination commission, the written examination is to be supplemented by an oral examination in a maximum of three examination areas lasting a maximum of 25 minutes each if this should be decisive for the passing of the examination. The written examination is to be assigned double the weight of the oral one.

§ 16

Examining Committees

The responsible body shall set up examining committees for the taking of Parts 1 and 2 of the final examinations.

Composition and Appointment of an Examining Committee

(1) An examining committee shall be made up of at least five members. The members must possess expertise in the areas of the examinations and be suitable for cooperation in examination procedures.

(2) The examining committee must be made up of representatives of the employers and the employees in equal numbers and one teacher from the maritime vocational school. Two thirds of the total number of its members must be representatives of the employers and the employees. The members shall each have deputies.

(3) The representatives of the employers shall be proposed by the Verband Deutscher Reeder (Association of German Ship owners) and those of the employees by the trade union "Vereinte Dienstleistungsgewerkschaft ver.di". The teachers will be proposed by the responsible authority of the Federal State.

(4) The members and deputy members shall be appointed by the responsible body for a term of three years. They may be dismissed on important grounds after a hearing has been granted to those involved in their appointment.

(5) The responsible body may, according to the criteria of par. 2 to 4, appoint additional persons as members of an examining committee supplementary to the composition thereof according to par. 1 inasmuch as there should be a specific need for this. The appointment as members of an examining committee must take place a sufficiently long time before the commencement of an examination for the candidates to be aware of the composition of the examining committee before the examination. In the case defined in Clause 1, so many members should be appointed that the examining committee is always made up of an uneven number of members.

(6) The work in the examining committee is unpaid. Inasmuch as no reimbursement is granted from any other source, the responsible body shall provide adequate compensation for expenditure incurred in connection with the examining work and for any losses of time, the amount of which shall be determined by the responsible body with the approval of the Federal Ministry of Transport, Building and Urban Development.

Chairmanship, quorum, voting of the Examining Committee

(1) The examining committee elects one member to be its chairman and one to be its deputy chairman. The chairman and his deputy should not come from the same group of members.

(2) The examining committee shall have a quorum if two-thirds of its members, three at least, participate. Decisions shall be taken by a majority of the votes cast. In the event of a tied vote, the chairman's vote shall be decisive.

Registration for the Final Examination

(1) The responsible body shall set the dates for the examination a year in advance taking into account the course of the vocational training and the school year and announce them, together with the deadlines for registration, in a suitable manner in good time.

(2) The registration for the examination is to be addressed to the responsible body by the person providing the training in writing. In special cases, particularly in the event of an examination being retaken or admission according to the terms of § 20, the candidate may register himself.

(3) Admission to and the dates and place of the examination are to be communicated to the candidates in good time. Admission to the examination may be revoked by the responsible body should it have been granted on the basis of forged documents or false statements.

Admission to the Final Examination Part 2 in Special Cases

(1) Also to be admitted to Part 2 of the final examination is anyone who provides evidence of:

1. possession of the certification of competence for ratings who serve watch on the bridge according to Section according to Section A-II/4 of the STCW-Code and
 - a) training in accordance with the vocation profile sharpening capabilities, knowledge and skills as defined in § 5 Number 2 lit. a, c and d or
 - b) a minimum three-year period at seagoing service on deck or
2. possession of a certificate of competence of ratings as an able seafarer deck in accordance with Section A-II/5 of the STCW-Code or
3. military training and period of service of at least four years in the German Navy in seafaring or navigational service.

In addition to the requirements designated in Clause 1 the applicant must also provide evidence of:

1. a course of practical training of a minimum of at least nine months' duration monitored by the responsible body approved seagoing engine room service with engines with a capacity of more than 750 kilowatts,
2. participation in a seminar implemented in a training location set up in accordance with the law of the State on the subject of engine room service lasting a minimum of twelve weeks and
3. possession of certificates of competence pursuant to basic safety training according to Section A-VI/1 of the STCW-Code and certificate of competence pursuant to basic training in security duties according to Section - VI/6 of the STCW-Code.

(2) Also to be admitted to Part 2 of the final examination is anyone who provides evidence of:

1. a period of seagoing service on board of a minimum of one year serving in the engine room with engines with a capacity of more than 750 kilowatts and
 - a) possession of a certificate pertaining to the final examination in a relevant qualified professional in the field of metalworking or electro-technology and
 - b) possession of a certificate of competence for ratings who have served in the engine room watch in accordance with Section A-III/4 of the STCW-Code or
2. possession of a certificate of competence for ratings who have served in the engine room watch in accordance with Section A-III/4 of the STCW-Code and
 - a) training in accordance with the vocation profile sharpening capabilities, knowledge and skills as defined in § 5 Number 2 lit. b, d, e, f and g or
 - b) a period of seagoing service in the engine room of at least three years with engines with a capacity of more than 750 kilowatts or
3. possession of a certificate of competence of ratings as an able seafarer in engine room service according to Section A-III/5 of the STCW-Code or
4. military training and period of service of at least four years in the German Navy in marine technical support services (engine technology, electrotechnology or ship's operating technology).

In addition to the requirements designated in Clause 1 the applicant must also provide evidence of:

1. A course of practical training of a minimum of at least nine months' duration monitored by the responsible body and approved seagoing deck service and
2. participation in a seminar implemented in a training location set up in accordance with the law of the State on the subject of deck service lasting a minimum of twelve weeks and
3. possession of certificates of competence pursuant to basic safety training according to Section A-VI/1 of the STCW-Code and certificate of competence pursuant to basic training in security duties according to Section A-VI/6 of the STCW-Code.

(3) Admission to Part 2 of the final examination is, in cases in which the final examination, for reasons for which neither the Apprentice nor the Training Employer bear the responsibility, can only be taken after the expiry of the training period as defined in § 4 Paragraph 1, to be regarded as an approved prolongation of the training period as defined in § 4 Paragraph 2.

§ 21

Examination tasks

(1) The responsible body shall set up a task-setting committee consisting of members of the examining committee which shall devise tests for the specimen work, examination items and other examination areas. In the cases of tasks that affect training standards according to the regulations II/5 and III/5 of the Annex to the STCW Convention the

Federal Maritime and Hydrographic Agency is to be involved.

(2) Before the commencement of the examination the examining committee shall select those tasks to be performed from among those defined in par. 1.

§ 22

Non-Public Nature of the Final Examinations

The final examinations are not public. Representatives of the Federal Ministry of Transport, Building and Urban Development, the Federal Ministry of Food, Agriculture and Consumer Protection, the Federal Maritime and Hydrographic Agency and the responsible body may be present. The examining committee may, in consensus with the responsible body, permit the presence of other persons. Only the members of the examining committee may be present at the consultations pursuant to the results of the examination.

§ 23

Direction and Supervision of the Final Examinations

(1) The final examination will be held under direction of the chairman of the entire examining committee. The examining committee shall announce which tools and aids are permitted at the commencement of each examination.

(2) With regard to written final examinations and the manufacturing of examination pieces the chairman of the examining committee shall, in consultation with the responsible body, guarantee the supervision of the final examination, which shall in its turn ensure that the candidates carry out the work themselves and using only the tools and aids allowed.

(3) The manufacturing of specimen pieces of work is, as a general rule, to be supervised by two members of the examining committee to be appointed by that committee, who must not belong to the same group. Each member shall report his observations to the examining committee and suggest an assessment.

(4) Should a specimen piece of work consist of two or more modules, the supervision thereof may be undertaken by one member of the examining committee for each module. Those members of the examining committee involved in the specimen in question shall unite the relevant performances and make a joint proposal of the specimen as a whole.

(5) A written record is to be drawn up concerning the course of the final examination.

(6) Inasmuch as persons with a physical, mental or psychological impediment take part in the final examination, their specific needs are to be taken into account with regard to the examination.

§ 24

Assessment of the Examination Performances

(1) The performance in the practical and written sections of the final examination will be assessed as follows:

1. "Excellent" (1) = 100 to 92 points, when the performance fulfils the requirements to a particularly high degree,
2. "Good" (2) = under 92 to 81 points when the performance fulfils the requirements totally,
3. "Satisfactory" (3) = less than 81 to 67 points when the performance generally speaking fulfils the requirements,
4. "Adequate" (4) = under 67 to 50 points when the performance does indeed reveal deficits, but on the whole nonetheless does fulfil the requirements,
5. "Deficient" (5) = under 50 to 30 points, if the performance should fail to fulfil the requirements but nonetheless reveals that the necessary basics do exist and that the deficiencies may be rectified in the foreseeable future,
6. "Inadequate" (6) = under 30 to 0 points, if the performance should fail to fulfil the requirements and even the gaps in the basic knowledge are so wide that it does not seem possible that the deficiencies may be rectified in the foreseeable future.

(2) Each examination performance is to be judged and assessed individually by the examining committee. In the case of the specimen work the assessment shall be on the basis of the reports submitted in accordance with § 23 Paragraph 3 Clause 2.

§ 25

Failure and Resit of the Final Examination Part 2

(1) If, in the written parts of the examination, the candidate's performance with regard to the individual specimens of work or examination items should not have been adequate, those parts of the examination that have not been passed may be repeated at the candidate's application. The application to repeat the examination must be submitted within a period of two years following the date of the previously failed examination.

(2) Should a candidate not have passed the examination, the examining committee may, notwithstanding par. 1, decide that, for certain examination items and specimen pieces of work in the practical examinations or certain sections of the written examination, a resit is necessary inasmuch as the candidate should not have submitted an application to repeat the examination within a period of two years following the date of the previously failed examination.

(3) In the event of a failed examination the candidates in question, their legal representatives and the instructors shall each receive a written notification in which it is stated for which examination items and specimen pieces of work and in which sections of the examination the performance has been deemed not to be adequate. Equally, those examination performances will be indicated that do not need to be repeated.

(4) The examining committee shall determine the earliest possible registration point in time for a resit.

(5) The regulations pursuant to the registration for the examination in accordance with § 19 par. 2 apply corre-

spondingly. When registering, the date and place of the previous, failed final examination are to be indicated.

§ 26

Withdrawal from the Final Examination; Non-Participation

(1) Examination candidates who have already registered for the final examination have the right to withdraw their application by way of a written declaration issued to the responsible body before the commencement of the final examination. In this case the final examination shall be deemed to have not been taken.

(2) Should candidates withdraw from the final examination after the commencement thereof, any examination performances that have already been effected and which are complete in themselves may only be recognised should there be important grounds for the withdrawal.

(3) Should the withdrawal be effected after the commencement of the final examination or should examination candidates not participate in the final examination without there being important grounds for this, the examination shall be deemed to have been failed.

(4) The examining committee shall decide whether important grounds exist or not. Important grounds shall be deemed in particular to be illness, accident and a death in the family.

§ 27

Non-Compliance with the Rules and Attempts at Cheating, Exclusion from the Final Examination

(1) The examining committee may exclude a candidate who either disrupts the proper implementation of the final examination to a considerable extent or who is guilty of attempting to cheat, from further participation in the examination after having granted that candidate a hearing and declare his performances in that part of the examination affected to have been inadequate. Such a declaration is no longer possible if a period of one year has expired since the conclusion of the particular examination.

(2) The examining committee is entitled to exclude candidates who are evidently under the influence of alcohol or drugs, especially if they should endanger either themselves or others, from further participation in the examination after granting them a hearing.

§ 28

Examination Papers

(1) The responsible body shall grant candidates upon application insight into those examination papers that affect them.

(2) The written examination papers are to be archived for a period of one year, the records taken in accordance with § 23 par. 5 for ten years. The expiry of the above-mentioned deadlines shall be suspended should any form of appeal be lodged.

Section 4

Final Stipulations

§ 29

Transitional Arrangements

Any Apprenticeship Agreements entered into before September 15th 2013 may be continued and ended in accordance with the previously valid training regulations, unless the parties agree in writing to apply this ordinance.

§ 30

Amendment to the Schiffsbesetzungsverordnung (German Safe Manning Regulation)

In § 5 Paragraph 2 Clauses 1 and 2 of the (German Safe Manning Regulation dated July 18th 2013 (BGBl. I p. 2575)

the term "Ordinance pursuant to the training of ship's mechanics" has been replaced in each case by the term "Ordinance Pursuant to Vocational Training in Maritime Shipping."

§ 31

Inception, Expiry

(1) This ordinance shall take effect as from September 15th 2013.

(2) At the same time the Ordinance pursuant to the training of ship's mechanics dated April 12th 1994 (BGBl. I p. 797), last amended by Article 29 Number 4 of the Act of July 25th 2013 (BGBl. I p. 2749), shall expire

Berlin, September 10th 2013

The Federal Minister for Transport, Building
and Urban Development

Annex 1
(to § 6)

Master Training Plan
for vocational training as Ship's Mechanic (Male/female)

No	Part of vocational profile	Core and expert qualifications that are to be imparted in an integrative fashion incorporating independent planning, implementation and control	Target time in weeks in each apprenticeship year		
			1	2	3
1	2	3	4		
		Ship operation on deck and in the engine room, basic knowledge of watch duty	In all, 12.5 weeks		
1	Basic principles of social competence, vocational training, labour and tariff law (§ 5 Number 1 lit. a)	<ul style="list-style-type: none"> a) explain the significance of the apprenticeship agreements, in particular their conclusion, duration, and termination b) name the mutual rights and obligations arising from the apprenticeship agreements c) name the possibilities for further vocational training d) explain professional qualification pathways in the maritime industry e) name essential components of the apprenticeship agreement f) name the essential stipulations of the valid tariff contracts applicable to the shipping company carrying out the training g) explain the impacts of the valid tariff and social laws upon the crew members h) name the risks connected with the abuse of drugs and alcohol i) explain social responsibility j) describe stress and strain (inter alia over-tiredness) 	To be imparted throughout the whole of the training Basics in the first year		
2	Structure and organisation of the shipping company and ship operations (§ 5 Number 1 lit. b)	<ul style="list-style-type: none"> a) explain the structure and organisation of the training shipping company and ship operations b) explain the basic functions of the training shipping company such as acquisition, transport and administration c) name the relationships maintained by the training shipping company and its crew to economic organisations, trade associations and unions d) describe the basic principles, duties and way of working of the constitutional bodies of the shipping company providing the training e) explain the impacts of the essential stipulations of the Works' Constitutional Act on the maritime industry 	To be imparted throughout the whole of the training		
3	Health and safety at work, first aid measures (§ 5 Number 1 lit. c)	<ul style="list-style-type: none"> a) explain the duties of work safety on board ships and the corresponding monitoring organisations b) explain the essential stipulations and guidelines of those safety at work regulations applicable on board ships c) name and apply safe working methods and personal safety measures on board d) name and pay attention to the dangers emanating from hazardous substances such as vapours, gases, corrosive and easily inflammable substances and from electrical current. e) instruct crew members new on board in the peculiarities of the ship with regard to safe behaviour f) proper conduct in the event of an accident on board g) knowledge of immediate actions in the event of accidents and other medical emergencies on board and initiation of first aid measures 	To be imparted throughout the whole of the training Basics in the first and second years		

No	Part of vocational profile	Core and expert qualifications that are to be imparted in an integrative fashion incorporating independent planning, implementation and control	Target time in weeks in each apprenticeship year		
			1	2	3
1	2	3	4		
4	Planning and preparation of workflows as well as monitoring and assessment of the work results (§ 5 Number 1 lit. d)	<ul style="list-style-type: none"> a) define work stages b) estimate requirements and determine the means to be used c) define the aids to be used for monitoring the work results d) provide the aids e) equip the place of work f) estimate the volume of work taking into account the time expenditure and necessity of staff reinforcement g) guarantee workflows in accordance with the legal stipulations h) prepare the place of work in accordance with the work order, take measures to avoid damage to persons and materials in the vicinity of the workplace i) monitor and assess work results 	To be imparted throughout the whole of the training		
5	Reading, applying and compilation of technical documents (§ 5 Number 1 lit. e)	<ul style="list-style-type: none"> a) read and apply technical documents b) make sketches c) compile measurement and test protocols d) know and apply norms e) read and understand maintenance manuals f) read and apply circuit, flow, safety and functional diagrams g) read and evaluate type plates and labels h) recognise and determine machine and device versions; assign spare parts from technical documents i) compile and evaluate protocols 	To be imparted throughout the whole of the training		
6	Security duties (§ 5 Number 1 lit. f)	<ul style="list-style-type: none"> a) Explain organisation and structure of security duties b) describe necessity and methods of constant security duties c) describe security duties at sea and in the harbour d) understand and apply the ship security plan e) Estimate and documentation of security risks for the ship f) explain the inspection methods and monitoring of the ship areas for the purpose of security duties g) use of safety equipment and safety systems 	To be imparted throughout the whole of the training		
7	Communication in both German and English during ship's operations (§ 5 Number 1 lit. g)	<ul style="list-style-type: none"> a) ability to be able to make oneself understood in both German and English whilst the ship is in operation <ul style="list-style-type: none"> aa) understand and use standard phrases, messages, maritime terminology and definitions in ship's operation in both German and English bb) handling of means of communication 	To be imparted throughout the whole of the training		
		<ul style="list-style-type: none"> b) Signals and alarms <ul style="list-style-type: none"> aa) recognise the relevant alarms bb) understand one's duties according to the safety role and carry out the necessary measures 	To be imparted throughout the whole of the training Main focus in the first year		
8	Environmental Protection and the ration use of energy and materials (§ 5 Number 1 lit. h)	<ul style="list-style-type: none"> a) name and apply environmental protection regulations, in particular those pursuant to the prevention of water pollution, keeping the air clean and the avoidance of noise and rubbish b) describe the impact of shipping and pollution of the maritime environment both caused by ship's opera- 	To be imparted throughout the whole of the training Main focus in the		

No	Part of vocational profile	Core and expert qualifications that are to be imparted in an integrative fashion incorporating independent planning, implementation and control	Target time in weeks in each apprenticeship year		
			1	2	3
1	2	3	4		
		<p>tions and unintentionally</p> <p>c) name fundamental environmental protection measures</p> <p>d) describe the complexity and variety of the maritime environment</p> <p>e) name the types of energy and materials used on board ships and list possibilities of rational usage thereof in the profession's sphere of influence and observation</p>	first year		
		Ship's Operations on Deck and in the Engine Room; Watch Duty			
1	Ship's Operations on Deck, Watch Duty (§ 5 Number 2 lit. a)	<p>a) Determination and monitoring of data pursuant to watch duty on the bridge and handing over of duties</p> <p>aa) determination of meteorological data with the aid of measuring, testing and display devices and observation of weather and tides</p> <p>bb) proof of knowledge:</p> <ul style="list-style-type: none"> – of the use and correction of nautical publication – of the selection of nautical maps on appropriate scales – of the setting and review of courses – of the calculation and review of the estimated time of arrival – of the determination of courses and bearings – of determining the ship's position – of how to operate the electronic navigational instruments – of how to prepare for the sea voyage – of registering and calculation time in the units of time valid on board <p>b) Steering of the ship and also comply with helm orders in the German and English language</p> <p>aa) steer the ship according to the compass, landmarks and navigational aids at sea and approach journeys taking the ship's navigational characteristics into account</p> <p>bb) support the master and officer of the watch on the bridge when entering and leaving the port</p> <p>cc) describe the manoeuvring behaviour of the ship</p> <p>c) Carrying out the duties of the lookout</p> <p>aa) recognise and report ships according to type and size as well as position taking into account the rights of way (KVR = Prevention of Collisions Regulations)</p> <p>bb) recognise and report objects at sea and on and, especially international buoyage and lighting systems according to function and identification</p> <p>d) Carrying out the signal duties</p> <p>aa) give and recognise signals</p> <p>bb) handling of signalling devices</p> <p>cc) name and explain emergency duties and alarm signals</p> <p>dd)</p> <p>e) Unmooring, mooring and anchoring the ship</p> <p>aa) unmooring and mooring up the ship, mooring and establishing of towing lines</p>	6	5	11
			1	1	1

No	Part of vocational profile	Core and expert qualifications that are to be imparted in an integrative fashion incorporating independent planning, implementation and control	Target time in weeks in each apprenticeship year		
			1	2	3
1	2	3	4		
		<ul style="list-style-type: none"> bb) how to use the anchoring equipment cc) prepare the facility for piloting and piloting equipment dd) establish connections to shore, in particular with gangways, ramps and gates as well as loading and disposal pipelines 			
2	Ship's Operations in the Engine Room, Watch Duty (§ 5 Number 2 lit. b)	<ul style="list-style-type: none"> a) Determine and monitor the data for the operation of the ship's engines and handing over of watch duty <ul style="list-style-type: none"> aa) read, record and evaluate the operating values of engines and systems such as temperatures, supply rates, filling levels, pressures and rotational speeds bb) read, record and evaluate the operating values of electrical systems cc) select, prepare and deploy upon instruction transportable measuring devices dd) according to instructions, compare measured values with the target and threshold values and, in the event of deviations, instigate corrective actions ee) read, record and evaluate the operating values of boilers and heat transfer media (steam technology) ff) knowledge of the functioning and operational modes of fuel systems as well as implementation of oil changes, bilge and ballast systems b) Localising and identifying of errors, disturbances and the causes thereof <ul style="list-style-type: none"> aa) recognise and localise errors and disturbances by sensory perception and inspection bb) read functional diagrams and troubleshooting guides cc) identify errors and disturbances, inspect for possible cause and keep a record thereof dd) instigate measures for the rectifying of errors and disturbances according to instructions c) Bunker, supply and disposal <ul style="list-style-type: none"> aa) prepare bunker, oil change and other disposal procedures bb) create and dissolve hose connections for bunker, disposal and oil-changing procedures according to regulations cc) proper conduct in the event of incidents related to bunker, disposal and oil-changing procedures dd) know and explain safety measures related to bunker, disposal and oil-changing procedures ee) select measuring devices, measure and estimate tank filling levels 	10	5	6
		<ul style="list-style-type: none"> aa) prepare bunker, oil change and other disposal procedures bb) create and dissolve hose connections for bunker, disposal and oil-changing procedures according to regulations cc) proper conduct in the event of incidents related to bunker, disposal and oil-changing procedures dd) know and explain safety measures related to bunker, disposal and oil-changing procedures ee) select measuring devices, measure and estimate tank filling levels 	1	1	1
		Loading and unloading operations			
3	Loading and unloading operations (§ 5 Number 2 lit. c)	<ul style="list-style-type: none"> a) Working with tackle <ul style="list-style-type: none"> aa) select and handle both tackle and running and standing rigging according to properties and the intended purpose bb) create knots according to the intended purpose cc) in accordance with the principles of good seamanship, splice, knot, dress and rig dd) assess the condition of the tackle as well as of the running and standing rigging 	1	1	

No	Part of vocational profile	Core and expert qualifications that are to be imparted in an integrative fashion incorporating independent planning, implementation and control	Target time in weeks in each apprenticeship year		
			1	2	3
1	2	3	4		
		<ul style="list-style-type: none"> b) Handling of cargo items and stores <ul style="list-style-type: none"> aa) pay heed to the particularities of the various cargoes and stores and handle them accordingly bb) recognise solid, liquid and gaseous cargoes and stores by their typical characteristics, packaging and identification labels (i.e. in accordance with the IMDG-Code) and pay heed to their handling instructions c) Preparation of cargo holds, tanks and decks <ul style="list-style-type: none"> aa) prepare cargo holds, tanks and decks for the loading and unloading of standard cargo items, for example by the preparing and provision of lashing materials bb) cleaning of cargo holds and tanks 			
		<ul style="list-style-type: none"> d) Execution of tasks for the securing of cargoes and stores <ul style="list-style-type: none"> aa) select techniques of the securing of cargoes and stores as well as suitable aids bb) create fixtures for the securing of cargoes and stores using wood and other materials cc) knowledge of lashing materials and their modes of operation and review their functional capability dd) Execution of tasks for the securing of cargoes and stores e) Execution of tasks connected with cargo care <ul style="list-style-type: none"> aa) participate in the monitoring of handling and stowing bb) read cargo hold and cargo tank diagrams cc) review cargo for its safety and characteristics as well as checking holds, tanks and decks during the voyage dd) review of holds and documentation of the results f) Handling of loading and handling fixtures <ul style="list-style-type: none"> aa) select and handle cargo fastening equipment according to deployment and load-bearing capacity bb) handling of derricks, cranes, haulage and pulley systems, winches, forklift trucks, conveyor belts and pumps when handling cargo cc) handling of cargo hatches and tank caps dd) operate cargo refrigerating systems under supervision 	2	3	4
		Ship Safety with regard to fire-fighting and rescue			
4	Safety with regard to fire-fighting and rescue (§ 5 Number 2 lit. d)	<ul style="list-style-type: none"> a) Maintaining the ship's seaworthiness <ul style="list-style-type: none"> aa) name the most important ship-building blocks and their correct designations bb) Conduct and measures to be taken in emergencies 	To be imparted during the entire course of training. Main focus in the first year		
		<ul style="list-style-type: none"> b) Implementation of fire prevention and fire-fighting measures as well as maintenance and handling of fire prevention equipment and fire-fighting devices and systems <ul style="list-style-type: none"> aa) recognise the possibilities of the threat of fire on board ship with regard to the preconditions for combustion and the inflammable nature of 	2	2	1

No	Part of vocational profile	Core and expert qualifications that are to be imparted in an integrative fashion incorporating independent planning, implementation and control	Target time in weeks in each apprenticeship year		
			1	2	3
1	2	3	4		
		<ul style="list-style-type: none"> various materials bb) assess the fire hazard presented by various materials cc) register structural fire protection on the basis of safety plans dd) follow the effective pathways of a fire detection system on board ee) register and implement duties according to the safety plan ff) select and handle breathing apparatus, gas protection measurement devices, heat-proof suits and other forms of fire protection equipment gg) recognise problems in connection with fire-fighting on board ship and apply the rules of conduct when fighting fires hh) assign fire extinguishers and other fire-fighting devices to the case of deployment ii) handle fire extinguishers and other fire-fighting devices jj) maintaining fire extinguishers and other fire-fighting devices and systems, check their functioning and repair them kk) participate in the deployment of large-scale fire-fighting systems 			
		<ul style="list-style-type: none"> c) Implementation of measures before and after the launching of rescue appliances and the handling and inspection of rescue appliances and other equipment used in the rescue service aa) assign lifeboat, life rafts and other rescue appliances to the emergency at sea bb) assign signalling devices and distress signals to the emergency at sea cc) inspect launching fixtures for rescue appliances for correct functioning dd) handle rescue appliances and launching fixtures ee) apply rules of conduct in the case of an emergency at sea ff) recognise and implement duties in accordance with the safety rota gg) inspection of rescue appliances for correct functioning and repair thereof hh) inspect equipment used in the rescue service for completeness and usefulness and keep a record thereof 	2	2	1
		<ul style="list-style-type: none"> d) Conduct and implementation of measures in emergencies and treatment of the injured aa) apply rules of conduct in the event of an emergency bb) participation in the dispensing of assistance to other ships and their crews in emergencies cc) recognise the needs of accident victims and risks for one's own safety dd) knowledge of the frame and the functions of the body ee) knowledge and implementation of urgent measures in emergencies 	0.5		

No	Part of vocational profile	Core and expert qualifications that are to be imparted in an integrative fashion incorporating independent planning, implementation and control	Target time in weeks in each apprenticeship year		
			1	2	3
1	2	3	4		
		Ship operating technology, electro-technology, controlling technology and electronics			
5	Ship operating technology, electro-technology, controlling technology and electronics (§ 5 Number 2 lit. e)	a) Differentiation between, allocation and application of working, auxiliary and operational materials, allocation thereof according to properties and processing and selection thereof for the intended purpose	1	1	
		b) Operation of working and engine-powered machinery, apparatuses and pipeline systems as well as electrical machines and systems aa) understand the functioning of working and engine-powered machinery, apparatuses and pipeline systems within the system as a whole bb) Commission working and engine-powered machinery, apparatuses and pipeline systems, monitor them whilst in operation and de-commission them once again cc) commission electrical engines and generators, monitor them whilst in operation and de-commission them once again dd) understand and operate pipeline systems for ship operations		4	6
		c) Basic knowledge of the pneumatic and hydraulic steering and control devices and the operation thereof aa) knowledge of the components and systems with regard to their function and impacts bb) exchange pneumatic and hydraulic components including pipelines		2	2
		Maintenance and repairs			
6	Maintenance and repairs (§ 5 Number 2 lit. f)	a) Maintenance of machines, systems and operational aids aa) determine semi-finished products, work pieces, clamping devices, tools, testing and measuring devices and other aids from technical documents and provide them bb) clean and take care of operational materials and protect them against corrosion cc) check operating materials, in particular oils, lubricants and coolants as well as hydraulic fluids according to maintenance instructions, refill and change them, and store them and dispose thereof in an environmentally appropriate manner dd) review machine and system components according to maintenance instructions, exchange, lubricate, oil and clean them ee) review, clean and exchange filters, sieves and separators ff) review mechanical connections including safety elements gg) review electrical components and wires and their connections hh) review modules and systems for tightness and noise development b) Dismantling and assembling of components, modules and systems aa) select and provide aids such as hoists and slings bb) set up and remove dismantling aids	5	10	10

No	Part of vocational profile	Core and expert qualifications that are to be imparted in an integrative fashion incorporating independent planning, implementation and control	Target time in weeks in each apprenticeship year		
			1	2	3
1	2	3	4		
		<ul style="list-style-type: none"> cc) remove components, modules and systems whilst observing their overall and individual functions in accordance with dismantling instructions, review them for reusability and label and store them with a view to their assembly dd) take apart modules and components, clean them and store them ready for assembly <p>c) Prepare assembly</p> <ul style="list-style-type: none"> aa) allocate components and modules in accordance with assembly instructions and identifying labels to the assembly processes and review them for completeness bb) review components and modules for functionally correct installation, in particular joining surfaces regarding sealing requirements, adapt surface forms and qualities <p>d) Assembly</p> <ul style="list-style-type: none"> aa) align components, modules and systems by visual inspection, gauging and measuring in a functionally correct manner and fit, adjust, connect and secure them thereby observing dimensional tolerances bb) intermediate review of individual functions during the assembly process cc) seal components and modules with sealing materials taking the manufacturers instructions into account dd) create pipe, hose and cable connections <p>e) Transport</p> <ul style="list-style-type: none"> aa) handling of manually operated hoisting equipment bb) secure components and models for transportation and transport them <p>f) Repair of components and modules</p> <ul style="list-style-type: none"> aa) review components for wear and tear, damage and reusability bb) review components using measuring methods cc) process components by cutting, separating, reforming and joining dd) manufacture components from metals ee) lay, exchange and repair cables 			
		<p>g) Conservation and painting work</p> <ul style="list-style-type: none"> aa) know and apply surface treatment methods bb) using materials and devices for conservation, cleaning and lubricating work in a correct manner cc) explain and implement regular maintenance and repair work dd) name and implement safety guidelines and instructions on board ee) describe and implement the safe disposal of refuse materials ff) Describe, maintain and handle manual and electrical tools 	1	1	

No	Part of vocational profile	Core and expert qualifications that are to be imparted in an integrative fashion incorporating independent planning, implementation and control	Target time in weeks in each apprenticeship year		
			1	2	3
1	2	3	4		
		Processing of metals			
7	Processing of metals (§ 5 Number 2 lit. g)	<ul style="list-style-type: none"> a) Testing, measuring, gauging <ul style="list-style-type: none"> aa) select testing and measuring devices in accordance with the intended purpose bb) determine lengths using the respective specific measuring devices cc) review angles on the basis of fixed angles and measure using protractors dd) review the flatness of surfaces with a ruler and angles using the light-gap method and the dimensional accuracy using rounding gauges ee) test using fixed and adjustable gauges ff) review surfaces for wear and tear and other damage b) Marking out, punching and labelling <ul style="list-style-type: none"> aa) mark out the work pieces taking the characteristics of the materials and surfaces into account bb) punch out the central drilling points as well as test and measurement points cc) label work pieces and components c) Alignment and tensioning of tools and work pieces <ul style="list-style-type: none"> aa) select and affix tensioning devices according to size, shape, material and processing of work pieces or components bb) Align and tension work pieces or components taking stability and surface protection into account cc) Align and tension tools 	3	1	
		<ul style="list-style-type: none"> d) Manual cutting <ul style="list-style-type: none"> aa) select the tools in accordance with the material, shape and surface quality of the work pieces bb) plane the surfaces and shapes of work pieces of steel and non-ferrous metals, file angularly and parallel to dimensions cc) saw sheets, tubes and profiles of ferrous and non-ferrous metals according to outline dd) cut internal and external threads taking into account the properties of the materials and coolant fluids ee) make the pipe threads 	2	1	
		<ul style="list-style-type: none"> e) Prepare machine cutting <ul style="list-style-type: none"> aa) select tools taking into account procedures, materials and the cutting geometry bb) determine and set the rotation frequency, feed rate and depth of cut on the tools for drilling and lathing procedures with the aid of charts and diagrams cc) create operational readiness of the tools f) Drilling, countersinking, reaming <ul style="list-style-type: none"> aa) drill holes in work pieces made from ferrous and non-ferrous metals using drills and lathes working with different materials by drilling into solids, drilling out, cantering and countersinking profiles bb) drill holes in pieces of work of ferrous and non-ferrous metals using drills by reaming 	1	2	1

No	Part of vocational profile	Core and expert qualifications that are to be imparted in an integrative fashion incorporating independent planning, implementation and control	Target time in weeks in each apprenticeship year		
			1	2	3
1	2	3	4		
		g) Lathing aa) make work pieces from ferrous and non-ferrous metals with varying lathe tools by transverse, face and length turning h) Sawing aa) saw the pieces of work suing sawing machines i) Sharpening aa) sharpen tools, in particular scribers, punching tools, drills and chisels on the grinding block			
		j) Separating aa) cut out thin metal sheets using scissors and hand lever scissors according to a trace bb) separate pipes with pipe cutters cc) separate metal sheets, pipes and profiles thermally by hand k) Reforming aa) cold reforming of sheets of steel and non-ferrous metals without any jigs in a vice by free rounding and swing folding bb) cold reforming of steel pipes cc) hot reforming of metal sheets, pipes and profiles dd) bending and straightening of metal sheets, pipes and profiles l) Jointing (Screw, bolt, pin and compressed connections) aa) check the components for the surface quality of their bonding sources and form tolerance and fix in an easy-to-assemble position bb) connect and secure components with the aid of screws, nuts and safety elements paying attention to the correct sequence and the tightening torque as well as the combinations of materials cc) create bolt and pin connections dd) create compressed connections by impressions, wedging, shrinking or stretching ee) create tubing threaded joints ff) review function, dimensional and, location tolerances of joined components	1	2	1
		m) Basic knowledge of and skills in arc welding, gas fusion welding and soldering (without certification) aa) create operational readiness of the welding and soldering equipment bb) select tools and materials in accordance with the intended purpose cc) prepare tools and components for welding and soldering dd) weld thin steel plates edge to edge ee) weld fillet seams to metal sheets and steel pipes			

Annex 2

(to § 10 Paragraph 2)

Vocational Training outside the Training location ship

Overview of the syllabus and timetable of the off-board training scheme in the metalworking branch

No.	Processing of metals (§ 5 Number 2 lit. g)	Target times in hours	
1	2	3	
1 (to be imparted in conjunction with numbers 3 to 10)	Planning and preparation of workflows as well as reviewing and assessing the results of the work (§ 5 Number 1 lit d)	To be imparted during the whole of the training course	
2 (to be imparted in conjunction with numbers 3 to 10)	Reading, application and compilation of technical documents (§ 5 Number 1 lit e)		
3	Testing, measuring, gauging	30	40*
4	Marking out, punching and labelling		
5	Alignment and tensioning of tools and work pieces		
6	Manual cutting	50	80*
7	Machine cutting	50	80*
8	Separating	30	45*
9	Reforming		
10	Joining	120	195*
	Total	280	440*

* Target times for the eventuality that the skills and knowledge related to metalworking are to be or have to be imparted entirely in the external training location.

No.	Part of vocational profile	Knowledge, understanding and expertise	Target time in hours
1	2	3	4
1 (to be imparted in conjunction with Nos. 3 to 10)	Planning and preparation of workflows as well as reviewing and assessing the results of the work, (§ 5 Number 1 lit d)	<ul style="list-style-type: none"> a) define work stages b) estimate requirements and determine the means to be used c) define the aids to be used for monitoring the work results d) provide the aids e) equip the place of work f) estimate the volume of work taking into account the time expenditure and necessity of staff reinforcement g) guarantee workflows in accordance with the legal stipulations h) prepare the place of work in accordance with the work order, take measures to avoid damage to persons and materials in the vicinity of the workplace i) monitor and assess work results 	To be imparted over the entire course of training
2 (to be imparted in conjunction with Nos. 3 to 10)	Reading, application and compilation of technical documents (§ 5 Number 1 lit e)	<ul style="list-style-type: none"> a) read and apply technical documents b) make sketches c) compile measurement and test protocols d) know and apply norms e) read and understand maintenance manuals f) read and apply circuit, flow, safety and functional diagrams g) read and evaluate type plates and labels h) recognise and determine machine and device versions; assign spare parts from technical documents 	To be imparted over the entire course of training

No.	Part of vocational profile	Knowledge, understanding and expertise	Target time in hours	
1	2	3	4	
		i) compile and evaluate protocols		
3	Testing, measuring, gauging	<ul style="list-style-type: none"> a) Select testing and measuring devices in accordance with the intended purpose b) determine lengths using the respective specific measuring devices c) review angles on the basis of fixed angles and measure using protractors d) review the flatness of surfaces with a ruler and angles using the light-gap method and the dimensional accuracy using rounding gauges e) test using fixed and adjustable gauges f) Review surfaces for wear and tear and other damage 	30	40*
4	Marking out, punching and labelling	<ul style="list-style-type: none"> a) Mark out the work pieces taking the characteristics of the materials and surfaces into account b) punch out the central drilling points as well as test and measurement points c) label work pieces and components 		
5	Alignment and tensioning of tools and pieces of work	<ul style="list-style-type: none"> a) select and affix tensioning devices according to size, shape, material and processing of work pieces or components b) align and tension pieces of work or components taking stability and surface protection into account c) align and tension tools 		
6	Manual cutting	<ul style="list-style-type: none"> a) select the tools in accordance with the material, shape and surface quality of the work piece b) plane the surfaces and shapes work pieces of steel and non-ferrous metals, file angularly and parallel to dimensions c) saw sheets, tubes and profiles of ferrous and non-ferrous metals according to outline d) cut internal and external threads taking into account the properties of the materials and coolant fluids e) make the pipe threads 	50	80*
7	Machine cutting	<p>Preparation</p> <ul style="list-style-type: none"> a) select tools taking into account procedures, materials and the cutting geometry b) determine and set the rotation frequency, feed rate and depth of cut on the tools for drilling and lathing procedures with the aid of charts and diagrams c) create operational readiness of the tools <p>Drilling, countersinking, reaming</p> <ul style="list-style-type: none"> d) drill holes in work pieces made from ferrous and non-ferrous metals using drills and lathes working with different materials by drilling into solids, drilling out, cantering and countersinking profiles e) drill holes in pieces of work of ferrous and non-ferrous metals using drills by reaming 	50	80*

No.	Part of vocational profile	Knowledge, understanding and expertise	Target time in hours	
1	2	3	4	
		<p>Lathing</p> <p>f) make pieces of work from ferrous and non-ferrous metals with varying lathe tools by transverse, face and length turning</p> <p>Sawing</p> <p>g) saw the pieces of work using sawing machines</p> <p>Sharpening</p> <p>h) sharpen tools, in particular scribers, punching tools, drills and chisels on the grinding block*</p>		
8	Separating	<p>a) cut out thin metal sheets using scissors and hand lever scissors according to a trace</p> <p>b) separate pipes with pipe cutters</p> <p>c) separate metal sheets, pipes and profiles thermally by hand</p>		
9	Reforming	<p>a) cold reforming of sheets of steel and non-ferrous metals without any jigs in a vice by free rounding and swing folding</p> <p>b) cold reforming of steel pipes</p> <p>c) hot reforming of metal sheets, pipes and profiles</p> <p>d) bending and straightening of metal sheets, pipes and profiles</p>	30	45*
10	Jointing	<p>a) Screw, bolt, pin and compressed connections check the components for the surface quality of their bonding sources and form tolerance and fix in an easy-to-assemble position</p> <p>b) connect and secure components with the aid of screws, nuts and safety elements paying attention to the correct sequence and the tightening torque as well as the combinations of materials</p> <p>c) create bolt and pin connections</p> <p>d) create compressed connections by impressions, wedging, shrinking or stretching</p> <p>e) create tubing threaded joints</p> <p>f) review function, dimensional and, location tolerances of joined components</p> <p>Basic knowledge of and skills in arc welding, gas fusion welding and soldering**</p> <p>g) create operational readiness of the welding and soldering equipment</p> <p>h) Select tools and materials in accordance with the intended purpose</p> <p>i) prepare tools and components for welding and soldering</p> <p>j) weld thin steel plates edge to edge</p> <p>k) weld fillet seams to metal sheets and steel pipes</p>	120	195*

* Target times for the eventuality that the skills and knowledge related to metalworking are to be or have to be imparted entirely in the external training location.

** Training in arc welding, gas fusion welding and soldering without certification

Annex 3

(Pursuant to § 10 Paragraph 3)

Vocational training outside the training location ship

Overview of the syllabus and timetable of the off-board training in fire-fighting, rescue work and security duties
(according to Section A-VI/1 of the STCW-Code; with the exception of Paragraph 2.1.3)

No.	Safety with regard to fire-fighting and rescue (§ 5 Number 2 lit. d)	Target times in hours
1	Implementation of fire-prevention and fire-fighting measures and the maintenance and handling of fire-fighting equipment, devices and systems	36
	a) fire-protection equipment and protective clothing	4
	b) breathing apparatus	8
	c) measuring apparatus	4
	d) fire extinguishing devices	6
	e) the rescuing of persons	6
	f) safety plan and safety exercises	8
2	Survival at sea, implementation of measures before and after the launching of life-saving equipment and other rescue equipment	36
	a) lifeboats (boats with permanent awnings and free fall lifeboats)	8
	b) inflatable life rafts	8
	c) Other rescue equipment	6
	d) rescuing of persons	6
	e) Safety plan and safety exercises	8
3	Security duties (§ 5 Number 1 lit. f)	8
	a) basic knowledge of structure and organisation of security duties	2
	b) recognising security threats or breaches at sea and in the harbour	3
	c) understanding and applying the security-related contingency plans and the current assessment of security threats or breaches of security and the documentation thereof	3
	Total	80

No.	Part of vocational profile	Knowledge, understanding and expertise	Target time in hours
1	2	3	4
1	Implementation of fire-prevention and fire-fighting measures and the maintenance and handling of fire-fighting equipment, devices and systems	a) fire-protection equipment and protective clothing handling of fire protection equipment in accordance with SOLAS, FSS-Code and Ship's safety regulations	4
		b) breathing apparatus recognise the structure and functioning of the compressed air breathing apparatus, review and use of the compressed air breathing apparatus, knowledge of the length of time for which the compressed air breathing apparatus may be worn and used as well as recognising and estimating the risks of deployment and restoration of operational readiness	8
		c) measuring apparatus knowledge of the area of applications and functioning of gas measuring and gas detecting devices, knowledge of how to handle the devices and learning to assess potential safety risks	4
		d) fire extinguishing devices review the operational readiness of fire extinguishing devices, knowledge of the handling of and deployment possibilities of the fire-fighting devices (fixed and portable), extinguish incipient fires of the various categories with various kinds of fire-fighting devices, restore operational readiness	6
		e) rescuing of persons apply rules of conduct when entering dangerous rooms and rescuing persons from a dangerous area	6
		f) safety plan and safety exercises basic Knowledge of various extinguishing tactics and techniques, mastery of duties according to the safety plan and in one's capacity a member of a tasks, use and handling of fire extinguishing devices in deployment	8
2	Survival at sea, implementation of measures before and after the launching of life-saving equipment and other rescue equipment	a) lifeboats (boots with permanent awnings and free fall lifeboats) monitor the operational readiness of lifeboats and their launching devices, make lifeboats and launching equipment ready, launch lifeboats, start and operate lifeboat engines, steer lifeboats, knowledge of how to handle the equipment	8
		b) inflatable life rafts make lifeboats ready and launch them by hand and with the aid of a crane, erect the life raft, conduct in an emergency, knowledge of handling the equipment, monitoring of operational readiness	8
		c) personal and other rescue equipment knowledge of handling personal and other rescue equipment; handling emergency	6

No.	Part of vocational profile	Knowledge, understanding and expertise	Target time in hours
1	2	3	4
		signals and signalling devices and line throwing devices (model); putting on survival suits (various types); various practice exercises whilst wearing a survival suit and immersion suit, safe putting on and checking of life jackets and work safety vest; knowledge of the monitoring and handling of technical radio rescue equipment	
		d) rescue of persons basic knowledge of how to organise aid in the event of an emergency at sea; rescue of persons in the context of rescue operations at sea, handling of helicopter rescue slings and rescue baskets or stretchers, initial care of the injured and sufferers from hypothermia	6
		e) safety plan and safety exercises preparing to abandon ship; fulfilment of one's duties in accordance with the safety rota and as a member of a task force	8
3	Security Duties (§ 5 Number 1 lit. f)	a) basic knowledge of the structure and organisation of security duties basic knowledge of regulations and recommendations, examples of current security threats, knowledge of security duties with regard to shipping company, harbour and ship	2
		b) recognising for maintaining critical operation of the ship/port interface, methods of searching, recognition of potential security, recognition and finding of weapons and other dangerous substances	3
		c) understanding and applying of security related contingency plans and the procedures of responding to security threat or breaches of security and the documentation thereof, adherence to safety measures pursuant to ship and harbour, knowledge of the various security procedures and levels, exercises in accordance with emergency plans, conduct in the citadel, documentation and records	3