



Basic Safety Training

**Personal Survival Techniques
Fire Prevention and Fire Fighting
Elementary First Aid
Personal Safety and Social Responsibility**

Merchant Navy Training Board

2nd edition – December 2004

Introduction

The mandatory requirements for familiarisation and basic safety training and instruction, and the standards of competence to be achieved, are set out in Regulation VI/1 of the Annex to the STCW Convention, as amended in 1995, and corresponding sections of the STCW Code. The Maritime and Coastguard Agency (MCA) has agreed with the Merchant Navy Training Board (MNTB) that the specifications described in this document will satisfy those requirements for approved training undertaken in the United Kingdom.

Health and Safety: Conduct of training

All training centres must adhere to applicable regulations made under the Health and Safety at Work etc Act 1974 and take proper account of the advice given in associated guidance documents and 'Approved Codes of Practice'. Outside the UK, centres must adhere to relevant national legislation.

Centres are required to make assessments of any potential risks to the health and safety of staff and trainees that may be associated with their activities. They are also required to identify, implement, monitor and review effective measures for minimising and controlling them. In addition, centres will be required to make effective arrangements for dealing with any emergency, incident or accident that may occur during the course of training. In the UK, the foregoing is required in accordance with the Management of Health and Safety at Work Regulations 1999.

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Section One

Familiarisation and basic safety training and instruction

Regulation VI/1 of the STCW Convention, as amended in July 1995, requires all seafarers to receive familiarisation and basic safety training or instruction in accordance with section A-VI/1 of the STCW Code and to meet the appropriate standard of competence specified therein.

The minimum requirements for familiarisation training are laid down at Section A-VI/1.1 of the STCW Code.

The requirements for familiarisation training referred to above are subsumed within the specifications for approval of basic safety training (STCW Code A-VI/1.2) described in this document.

The basic training may be delivered in a number of ways, including:

- i* as an integral part of a broader pre-sea induction training for new entrants to the industry. In this case, the training will be complementary to other studies within the programme of induction and a combined certificate of completion of training may be issued, based on the format at *Annex A*. The titles of each section must be included on the certificate;
- ii* as a combined course of training covering all four sections. In this case, a single programme of training to meet all the outcomes can be designed and delivered in an integrated way. A combined certificate of completion of training may be issued based on the format at *Annex A*. The titles of each section must be included on the certificate;
- iii* as stand alone modules, where required, based on the specifications for the individual subjects in section two to four. Separate certificates must be issued for each module.

Conditions for approval of short courses

- 1 The training centre is responsible for ensuring that trainees meet the entry requirements for the relevant training programme and other conditions for the issue of a certificate (where applicable).
- 2 The same person must not undertake the training and assessment of an individual candidate.
- 3 The training centre must advise the headquarters of the Maritime and Coastguard Agency (Seafarers Standards Branch) if there is any change (e.g. in facilities, equipment, staff) that is likely to affect the conduct of the training and/or assessment.
- 4 The Maritime and Coastguard Agency's local area Marine Office must be kept informed of the dates, timing and venue of training programmes so that the Marine Office can monitor the training at their convenience.
- 5 Certificates shall be issued only to those trainees who successfully complete the training programme and meet other requirements for the issue of the certificate.
- 6 All certificates shall be issued in the form approved by the MCA, having regard to the specimen certificate included with this document. Centres should confirm with the MCA that the certificate they intend to issue meets this requirement.
- 7 Full records of all certificates issued to trainees must be retained by the centre and kept in such a way that authenticity or confirmation of issue of a certificate can be verified at a later stage if necessary.
- 8 A record of the original approval given by MCA, plus a record of subsequent visits made by MCA, must be maintained by the centre as part of the quality standards system for approved short courses.

Wording on certificates

The titles and STCW references to appear on the certificate (see opposite), as appropriate, are:

TITLE	REG'N	CODE	PARA.
Personal survival techniques	Reg.VI/1	Section A-VI/1	2.1.1
Fire prevention and fire fighting	Reg.VI/1	Section A-VI/1	2.1.2
Elementary first aid	Reg.VI/1	Section A-VI/1	2.1.3
Personal safety and social responsibilities	Reg.VI/1	Section A-VI/1	2.1.4

SPECIMEN CERTIFICATE FOR SPECIALISED MARITIME TRAINING

(to be produced and registered locally by the Issuing Authority)

Issuing Authority []	No: <i>[Issuing Authority to allocate]</i> Address and contact details []
Tel:	Fax:
TITLE OF CERTIFICATE: <i>[to relate exactly to STCW 95 –see page 4]</i> This is to certify that <i>[full name of candidate]</i> Date of Birth [] Discharge Book No [] or other national ID has successfully completed a programme of training approved by the Maritime and Coastguard Agency as meeting the requirements laid down in: <p style="text-align: center;">STCW 95 Regulation VI/1 and paragraph(s) [...]* of Section A-VI/1 of the STCW Code</p> *(see page 4) and has also met the additional criteria specified in the STCW Convention, applicable to the issue of this certificate. This Certificate is issued under the authority of the Maritime and Coastguard Agency of the United Kingdom of Great Britain and Northern Ireland, an executive agency of the Department for Transport.	
Signature of Principal or Authorised Representative of the Centre Approved to Provide the Training _____ Signature of person to whom this certificate was issued _____	Issuing Authority Stamp and Date

Inquiries concerning this certificate should be addressed to the Issuing Authority at the address above.

Section Two

Specification for approval of training in personal survival techniques

Scope This training is intended to meet the requirements set out in Table A-VI/1-1 of the STCW Code and unit A11 of the marine national occupational standards.

The greatest and most immediate threat to life in the event of abandoning ship is cold exposure. Precautions to protect against it, together with knowledge of survival equipment and its use, is the main message of this training. Other problems that a survivor will encounter are covered so as to ensure the highest possible chances of survival.

Objectives The objective of the training is to give all persons intending to go to sea the essential basic knowledge and experience of personal survival principles and techniques that can be applied to maximise their chances of survival in the event of a marine casualty.

Entry standards Centres must ensure, through pre-course and introductory briefing, that course participants are aware of the practical aspects of the training and the physically demanding nature some of the exercises, particularly the wet drill. If there is any doubt as to their ability to participate in such exercises, they should be cautioned accordingly.

Course intake limitations For practical exercises, the trainee/staff ratio should not exceed 8:1.

Staff requirements All training and instruction should be given, and assessments carried out, by properly qualified personnel. All staff must have suitable marine experience, understand the specific objectives of the training and be familiar with the operational environment in merchant vessels.

For practical exercises, two staff members should be available. The person conducting the practical training must be in possession of a recognised First Aid qualification. If the person conducting the training is not also in possession of a recognised life saving qualification (e.g. RLSS or similar), a person holding such a qualification should be in attendance.

In addition, those involved should:

- i* have a knowledge of instructional techniques and of training methods and practice;
- ii* have an understanding of assessment methods and practice;
- iii* have gained practical instructional and assessment experience under the supervision and to the satisfaction of experienced instructors/assessors.

Outcomes

The outcomes to be achieved are set out in Table A-VI/1-1 of the STCW Code (see *Annex A*).

All trainees will be required to present sufficient evidence that the criteria specified have been met through practical demonstrations and other appropriate means.

Facilities and equipment

Centres seeking approval will need to show that they can provide or have access to:

- i* a classroom or equivalent for general instruction and the theoretical aspects of the course;
- ii* a demonstration hall or similar facility where an inflated liferaft and all associated gear and equipment can be displayed. This should include a display of posters and other visual aids relating to lifesaving appliances and systems commonly found on merchant ships, including:
 - donning instructions for different types of lifejackets
 - operating instructions for davit launched liferafts
 - hydrostatic release units
 - portable radio equipment
 - marine evacuation system (MES)
- i* a swimming pool where wet drill can be conducted.

The minimum equipment needed for the conduct of the training is at *Annex B*.

Assessment

The training must be organised so that, by demonstration, trainees are able to show that

they meet the requirements of column 2 of Table A-VI/1-1 in accordance with the methods for demonstrating competence shown in column 3 of that table and the criteria for evaluating competence in column 4.

Centres will be required to explain as part of the procedures for approval how these requirements are to be met and the outcomes recorded.

A variety of sources of evidence may be used but must include evidence of candidates' ability, under realistic conditions, to take precautions against immediate threats to life in the event of having to abandon ship. Direct observation, oral questioning, simulation and role play would be considered ideal approaches to generating much of the evidence required.

Conduct of training

The safety of trainees must be ensured at all times. Centres must draw up their own criteria to meet Health and Safety obligations (see also introduction on page ii).

Instruction is to be provided in three main parts:

- i* instruction on basic principles and procedures
- ii* 'dry' demonstration of raft and equipment
- iii* practical wet liferaft drill

The instruction must cover the use of survival craft and associated equipment, together with the actions which should be taken by each person to overcome or minimise the immediate threats to life at every stage of a survival situation, i.e. prior to abandonment, at abandonment, and aboard survival craft.

Although instruction is to be based on the inflatable liferaft, it should be made clear that other types of survival craft are fitted to ships; however, the operation of these, particularly lifeboats should be learned in detail aboard each ship at the regular training drills. It should be emphasised that the purpose and function of all survival craft are the same, and the principles of survival apply in all circumstances.

Guidance on the conduct and structure of training is given at *Annex C*.

Training plans	Centres will need to present their training plans as part of the approval process.
Quality standards	<p>The arrangements for delivering the training and assessing competence must be continuously monitored through a quality standards system to ensure achievement of defined objectives.</p> <p>Centres are required to maintain a quality standard through documented procedures that shall be inspected and monitored by the MCA at intervals not exceeding five years.</p> <p>The quality standards system and evaluation arrangements may be part of a centre's overall quality assurance system.</p>
Documentation	<p>Achievement of the desired standard of competence will be attested to by a certificate issued by the centre, in the format shown in <i>Annex A</i> to section one, and, where appropriate, will be recorded as part of formal assessment procedures.</p> <p>A certificate cannot be issued prior to approval of the training by the MCA.</p> <p>Possession of this certificate will be a pre-entry requirement for attendance at a course leading to the Certificate of Proficiency in Survival Craft and Rescue Boats other than fast rescue boats.</p>
Approval	Centres offering training and assessment must be approved by the MCA (see page 3).

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**STCW Code: Table A-VI/1-1
Specification of Minimum Standard of Competence in Personal Survival Techniques**

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
Competence	Knowledge, Understanding and Proficiency	Methods for Demonstrating Competence	Criteria for Evaluating Competence
Survive a sea in the event of ship abandonment	<p>Types of emergency situations which may occur, such as collision, fire, foundering</p> <p>Types of life-saving appliances normally carried on ships</p> <p>Equipment in survival craft</p> <p>Location of personal life-saving appliances</p> <p>Principles concerning survival, including:</p> <p>.1 value of training and drills</p> <p>.2 personal protective clothing and equipment</p> <p>.3 need to be ready for any emergency</p> <p>.4 actions to be taken when called to survival craft stations</p> <p>.5 actions to be taken when required to abandon ship</p> <p>.6 actions to be taken when in the water</p> <p>.7 actions to be taken when aboard a survival craft</p> <p>.8 main dangers to survivors</p>	<p>Assessment of evidence obtained from approved instruction or during attendance at an approved course or approved in-service experience and examination, including practical demonstration of competence to:</p> <p>.1 don a lifejacket</p> <p>.2 don and use an immersion suit</p> <p>.3 safely jump from a height into the water</p> <p>.4 right an inverted liferaft which wearing a lifejacket</p> <p>.5 swim while wearing a lifejacket</p> <p>.6 keep afloat without a lifejacket</p> <p>.7 board a survival craft from ship and water while wearing a lifejacket</p> <p>.8 take initial actions on boarding survival craft to enhance chance of survival</p> <p>.9 stream a drogue or sea-anchor</p> <p>.10 operate survival craft equipment</p> <p>.11 operate location devices, including radio equipment</p>	<p>Action taken on identifying muster signals is appropriate to the indicated emergency and complies with established procedures</p> <p>The timing and sequence of individual actions are appropriate to the prevailing circumstance and conditions and minimise potential dangers and threats to survival</p> <p>Method of boarding survival craft is appropriate and avoids dangers to other survivors</p> <p>Initial actions after leaving the ship and procedures and actions in water minimise threats to survival</p>

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Equipment required

The following list of equipment is considered to be essential.

Wet Liferaft Drill Equipment

One	Liferaft (minimum 10 man where space permits) complete with container (dummy survival pack)
One per person	Dot approved lifejackets

Dry liferaft equipment and static display

One	SOLAS-compliant liferaft, fitted with at least two entrances (minimum 10 man where space permits) complete with container and including complete survival pack
One	Man overboard marker in ship's stowage
One	Helicopter rescue strop
One	Floating knife
One	Lamp and battery
One	Set bellows
One	Safety topping up valve
One	Set leak stoppers
One	Drogue (sea anchor)
One	Set paddles
One	Sponge
One	Rescue Line and quoit
One	First Aid
One	Whistle
One	Cup-cum-baler
One	Heliograph
One	Repair outfit
Consumable	Survival rations
Consumable	Sachets of water
One	Fishing kit
One	Liferaft instruction leaflet
One	Rescue signal table
One	Signal torch
One set	Emergency radio equipment - EPIRB, SARTS, hand held radios
Various types	Lifejackets
One set	Dummy pyrotechnics
One each	Current videos
One	Thermal protective aid
One	Inflatable radar reflector
One	Capsule of anti-seasickness pills (empty)
One	Seasickness bag
One	Immersion suit
One copy	Code of Safe Working Practices for Merchant Seamen

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Guidance on conduct and structure of basic sea survival training

The course consists of 3 parts:

1. Principles and Procedures

Instructions on principles and procedures of Personal Survival. Every prospective seafarer should be instructed in the following:

- (a) types of emergencies which may occur, such as collisions, fire, foundering and man overboard;
- (b) types of life saving appliances normally carried on ships: boats, liferafts, lifebuoys, lifejackets;
- (c) the value of training and drills; the need to adhere to the principles of survival and safe practices;
- (d) awareness of accident prevention; value of training and drills;
- (e) the need to be ready for any emergency and to be constantly aware of:
 - (i) information in the muster-list
 - (ii) specific duties in any emergency
 - (iii) survival craft station
 - (iv) the signals calling all crew to their survival craft or fire stations
 - (v) location of personal life-saving appliances and spare lifejackets, immersion suits and TPAs (Thermal Protective Aids)
 - (vi) location of fire alarm controls
 - (vii) means of escape
 - (viii) consequences of panic
- (f) actions to be taken when called to survival craft stations, including:
 - (i) putting on suitable clothing
 - (ii) donning a lifejacket, immersion suit, TPA
 - (iii) collecting additional protection such as blankets, time permitting
- (g) actions to be taken when required to abandon ship, such as:
 - (i) how to board survival craft through MES (Marine Evacuation System)
 - (ii) how to board survival craft from ship and water

- (iii) how to enter the water from a height and reduce the risk of injury particularly when wearing a lifejacket
- (h) actions to be taken when in the water, such as:
 - (i) how to survive in circumstances of fire or oil on the water, cold conditions and shark infested waters
 - (ii) how to right a capsized survival craft
- (i) actions to be taken when aboard a survival craft, such as:
 - (i) getting the survival craft quickly clear of the ship
 - (ii) protection against cold or extreme heat
 - (iii) using a drogue or sea anchor
 - (iv) keeping a good look-out
 - (v) recovering and caring for survivors
 - (vi) facilitating detection by others
 - (vii) checking equipment available for use in the survival craft and using it correctly
 - (viii) remaining, so far as possible, in the vicinity
- (j) main dangers to survivors and the general principles of survival, including:
 - (i) precautions to be taken in cold climates
 - (ii) precautions to be taken in tropical climates
 - (iii) exposure to sun, wind, rain and sea
 - (iv) importance of wearing suitable clothing
 - (v) protective measures in survival craft
 - (vi) effects of immersion in water and of hypothermia
 - (vii) importance of preserving body fluids
 - (viii) protection against sea-sickness
 - (ix) proper use of fresh water and food
 - (x) effects of drinking sea-water
 - (xi) means available for facilitating detection by others
 - (xii) importance of maintaining morale
- (k) suitable videos or other audio-visual instructional aids showing abandoning ship (including use of MES, if available), rescuing survivors, use of pyrotechnics and means of communication.

Note

Instructors should draw participants' attention to the use of:

- the "Code of Safe Working Practices for Merchant Seamen" (carried on board every UK flag ship) for more information about safe practices and accident prevention; and
- Ships' Training Manuals.

2. **Demonstration Session**

Practical session in a demonstration hall (where an inflated liferaft and all associated gear and equipment will be on display) should consist of the following:

- (a) use of inflatable lifejacket;
- (b) use of immersion suit and TPA;
- (c) use of helicopter strop;
- (d) use of distress signals - EPIRB, SART, radar reflector, rocket parachute flares, hand flares, buoyant smoke signals (pyrotechnics need not be fired; empty shells or dummies may be used to explain the use);
- (e) operation of survival craft equipment including basic operation of portable radio equipment.

3. **Wet Drill**

All participants will be required to participate in practical instruction and demonstrate competence to perform the actions listed in column 3 of Table A-VI/-1 of the STCW Code.

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Section Three

Training in fire prevention and fire fighting

Scope	<p>This training is intended to meet the requirements set out in Section A-VI/1 of the STCW Code and Unit A11 of the marine national occupational standards.</p> <p>The training is part of the basic training required for seafarers employed or engaged in any capacity on board ship on the business of that ship, as part of the ship's complement, with designated safety or pollution prevention duties in the operation of the ship. The training must be undertaken before new entrants are assigned to any such shipboard duties.</p>
Objectives	<p>On completion of the training, the trainees will have knowledge of the ways in which fires are caused and the precautions to be taken to minimise the risk of fire in ships. They will be able to:</p> <ul style="list-style-type: none"><i>i</i> maintain a state of readiness to respond to emergency situations involving fires aboard ship;<i>ii</i> fight and extinguish fires using fire fighting apparatus and appliances provided on board;<i>iii</i> act as a member of a fire party, including use of self-contained breathing apparatus.
Entry standards	<p>Prior experience is not needed for those embarking on this training.</p> <p>Centres must ensure, through pre-course and introductory briefing, that course participants are aware of the practical aspects of the training and the physically demanding nature some of the exercises involving live fires and the use of breathing apparatus. If there is any doubt as to their ability to participate in such exercises, they should be cautioned accordingly.</p>
Course intake limitations	<p>The number of trainees on each course will depend upon the availability of instructors and equipment and the facilities for conducting realistic exercises involving live fires. The number should not exceed that which will allow sufficient opportunity for each trainee to</p>

participate in practical exercises and demonstrations (see staff requirements below).

Staff requirements

All training and instruction should be given, and assessments carried out, by properly qualified personnel. All staff must:

- i* understand the specific objectives of the training;
- ii* be familiar with the use and operation of fire fighting appliances and equipment commonly found in merchant vessels;
- iii* have a knowledge of instructional techniques and of training methods and practice (e.g. an appropriate qualification in instructional techniques);
- iv* have an understanding of assessment methods and practice;
- v* have gained practical instructional and assessment experience under the supervision and to the satisfaction of experienced instructors/assessors;
- vi* have an understanding of the particular problems of fire fighting aboard ship.

The practical exercises must be conducted and achievement of competency must be assessed under the supervision of a retained or serving fire fighter (or a person with equivalent qualifications and experience).

The ratio of staff to students for the practical exercises involving live fires or the use of breathing apparatus should not exceed 1:4. The centre, having regard to health and safety and the objectives of the training, should determine other staff requirements.

Outcomes

The outcomes to be achieved are set out in Table A-VI/1-2 of the STCW Code (see *Annex A*) and Unit A11 of the marine national occupational standards.

All trainees will be required to present sufficient evidence that the criteria specified have been met through practical demonstrations, oral questioning and other appropriate means.

Training plan

The training may be delivered as an integral part of an induction programme for new entrants

which incorporates other elements of the basic training requirements set out in Section A-V1/1 of the STCW Code. In order to ensure that each candidate undertakes the necessary practical work, at least 9 hours must be devoted to the practical exercises and demonstrations referred to in *Annex B*.

Alternatively training may be provided as a full time block course, normally of 18 hours duration spread over three days. Some establishments may have manpower, equipment and facilities such that the standards may be achieved over a different time-scale.

Conduct of training

The safety of trainees must be ensured at all times. Centres must draw up their own criteria to meet Health and Safety obligations (see also introduction on page ii).

Training and assessment must be undertaken by persons qualified in accordance with the provisions of Section A-I/6 of the STCW Code.

Practical training is essential. Training should be organised so that each candidate, as a minimum, undertakes practical exercises listed in column 3 of that table.

Guidance on the content and structure of training is given at *Annex B*.

Centres will be required to present their training plans as part of the approval process, taking account of the need to maintain a balanced content in the following respects:

- i* appreciation of the hazards involved in fire at sea;
- ii* fire prevention precautions to be taken;
- iii* fire detection, and means of raising the alarm;
- iv* initial 'first aid' actions on discovery of a fire;
- v* the duties of members of a fire party and the equipment used;
- vi* exercises and demonstrations of appliances and equipment

Facilities and equipment

Facilities and equipment must be available which enable practical demonstrations and

exercises to be undertaken in accordance with the specific objectives and outcomes of this training. A list of equipment and facilities considered to be essential is given at *Annex C*.

The facilities must include spaces which provide truly realistic conditions for training in fire-fighting techniques applied aboard ship, where appropriate in darkness (e.g. simulated shipboard conditions).

Assessment

The training must be organised so that, by demonstration, trainees are able to show that they meet the requirements of column 2 of Table A-VI/1-1, in accordance with the methods for demonstrating competence shown in column 3 of that table and the criteria for evaluating competence in column 4.

Centres will be required to explain as part of the procedures for approval how these requirements are to be met and the outcomes recorded.

A variety of sources of evidence may be used but must include evidence of candidates' ability, under realistic conditions, to prevent and fight fires aboard ship. Direct observation, oral questioning, simulation and role play would be considered ideal approaches to generating much of the evidence required.

Quality standards

The arrangements for delivering the training and assessing competence must be continuously monitored through a quality standards system to ensure achievement of defined objectives.

Centres are required to maintain a quality standard through documented procedures that shall be inspected and monitored by the MCA at intervals not exceeding five years.

The quality standards system and evaluation arrangements may be part of a centre's overall quality assurance system.

Documentation

Achievement of the desired standard of competence will be attested to by a certificate issued by the centre, in the format shown in *Annex A* to section one. Where appropriate, this will also be recorded as part of formal assessment procedures.

A certificate cannot be issued prior to approval of the training by the MCA.

Approval

Centres offering training and assessment must be approved by the MCA (see page 3).

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**STCW Code: Table A-VI/1-2
Specification of minimum standard of competence in fire prevention and fire fighting**

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
Competence	Knowledge, Understanding and Proficiency	Methods for Demonstrating Competence	Criteria for Evaluating Competence
Minimise the risk of fire and maintain a state of readiness to respond to emergency situations involving fire	<p>Shipboard fire-fighting organisation</p> <p>Location of fire-fighting appliances and emergency escape routes</p> <p>The elements of fire and explosion (the fire triangle)</p> <p>Types and sources of ignition</p> <p>Flammable materials, fire hazards and spread of fire</p> <p>The need for constant vigilance</p> <p>Actions to be taken on board ship</p> <p>Fire and smoke detection and automatic alarm systems</p> <p>Classification of fire and applicable extinguishing agents</p>	Assessment of evidence obtained from approved instruction or attendance at an approved course	<p>Initial actions on becoming aware of an emergency conform with accepted practices and procedures</p> <p>Action taken on identifying muster signals is appropriate to the indicated emergency and complies with established procedures</p>

Competence	Knowledge, Understanding and Proficiency	Methods for Demonstrating Competence	Criteria for Evaluating Competence
Fight and extinguish fires	<p>Fire-fighting equipment and its location on board</p> <p>Instruction in:</p> <ul style="list-style-type: none"> .1 fixed installation .2 fire-fighter's outfits .3 personal equipment .4 fire-fighting appliances and equipment .5 fire-fighting methods .6 fire-fighting agents .7 fire-fighting procedures .8 use of breathing apparatus for fighting fires and effecting rescues 	<p>Assessment of evidence obtained from approved instruction or during attendance at an approved course, including practical demonstration in spaces which provide truly realistic training conditions (e.g. simulated shipboard conditions) and, whenever possible and practical, in darkness, of the ability to:</p> <ul style="list-style-type: none"> .1 use various types of portable fire extinguishers .2 use self-contained breathing apparatus .3 extinguish smaller fires, e.g. electrical fires, oil fires, propane fires .4 extinguish extensive fires with water, using jet and spray nozzles .5 extinguish fires with foam, powder or any other suitable chemical agent .6 enter and pass through, with life-line but without breathing apparatus, a compartment into which high-expansion foam has been injected .7 fight fire in smoke-filled enclosed spaces wearing self-contained breathing apparatus .8 extinguish fire with water fog or any other suitable fire-fighting agent in an accommodation room or simulated engine-room with fire and heavy smoke .9 extinguish oil fire with fog applicator and spray nozzles, dry chemical powder or foam applicators .10 effect a rescue in a smoke-filled space 	<p>Clothing and equipment are appropriate to the nature of the fire-fighting operations</p> <p>The timing and sequence of individual actions are appropriate to the prevailing circumstances and conditions</p> <p>Extinguishment of fire is achieved using appropriate procedures, techniques and fire-fighting agents</p> <p>Breathing apparatus procedures and techniques comply with accepted practices and procedures</p>

		wearing breathing apparatus	
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Guidelines on course structure and content

The duration of the course will depend on the background and prior knowledge and experience of course participants. However, where potential candidates have limited prior experience, it is unlikely that the stated objectives can be achieved in less than 18 hours instruction overall.

Assessments should be designed to establish a candidate's competence in accordance with Table A-VI/1-2 of the STCW Code. This assessment will be undertaken by activity in a practical situation. It may include appropriate oral questioning to establish that a candidate has knowledge and understanding of relevant principles and procedures which underpin competent performance and which cannot be readily inferred from practical demonstration.

The course should be structured around the modules listed below so that instruction is progressive with alternating periods of instruction in principles and procedures and practical instruction which involves demonstrations and exercises in fire fighting techniques and procedures and the use of fire fighting appliances. At least 50% of the course should be devoted to the practical exercises.

Module 1 Classroom

Introduction: - the dangers of fires in ships and the way in which fires are caused. Preventing, detecting and extinguishing fires. Location of fire fighting appliances and emergency escape routes.

Basic principles of survival in relation to fire: - training and drills; preparedness for any emergency; actions to be taken when called to muster stations; knowledge of escape routes; dangers of smoke and toxic fumes.

The elements of fire and explosion (the fire triangle): - types and sources of ignition, ignition temperatures, spontaneous ignition;

Flammable materials, fire hazard and spread of fire: - conduction, radiation, heat flow, convection currents. Flammable range. Static electricity.

Classification of fires and applicable extinguishing agents: - carbonaceous (wood, paper, textiles and similar materials); liquids (low, medium and high flash point, including common examples of each); gaseous and vapour gases; electrical equipment.

Fire extinguishing principles: cooling, smothering and removal

of fuel (including examples of cooling agents and smothering agents);

Portable fire extinguishers: - description, suitability, method of operation and application for various types of fire, including:

- water
- foam (chemical, mechanical)
- dry powder
- carbon-dioxide
- halon (as appropriate)
- sand and smothering material
- fire blanket

Practical

Demonstrations¹ of the correct use of portable fire extinguishers appropriate for different types of fire e.g.:

- wood
- oil
- fat *
- plastics *
- propane *
- electrical *

The risk of incorrect use to be demonstrated (e.g. water jet on oil or fat).

Each course member to be instructed in the use of each type of portable extinguisher and observe extinguishment of different types of smaller fires using at least two different types of extinguisher. Each course member should demonstrate ability to operate a portable extinguisher [water, foam and/or dry powder].

Module 2 Classroom

Fire prevention principles: - potential hazards and main causes of fire in engine room, galley, accommodation and cargoes. Safe and unsafe practices. Need for cleanliness, constant vigilance and good housekeeping at all times.

Fire and smoke detection and automatic alarm systems.

Fire protection; - fire doors, fire bulkheads and fire dampers. Fixed installations for detection and extinction of fire.

Fire fighting appliances and equipment: - larger portable and non-portable extinguishers; hoses and nozzles; use on various fires; application of spray or jet to best effect; boundary cooling, water screen, foam making branch pipes. Hi-ex foam. Entry into a compartment into which high-expansion foam has been injected. Care of equipment, ready for immediate use.

¹ Video would be acceptable for demonstration of the items marked '*'.
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Emergency generator. Emergency fire pump. Gas-freeing tanks. I G systems.

Fire fighting procedures:

- Find
- Inform
- Restrict
- Extinguish

Action on detecting or discovering a fire:- precautions to avoid injury; movement in vicinity of fire; dangers of smoke inhalation; smoke extraction; re-ignition.

Shipboard fire fighting organisation: - emergency duties; fire control plans, fire patrols, communications, general alarm; assisting and directing passengers.

Fire-fighters outfits and functions of a fire party; use of breathing apparatus for fighting fires and effecting rescue; resuscitation equipment; smoke helmet.

Practical

Demonstration of the extinguishment of extensive fires of various types, including an oil fire, using as appropriate:

- water (jet, spray and fog application)
- foams (including aqueous-film-forming type (AFF))
- dry powder
- CO₂

Each course participant should demonstrate ability to:

- extinguish extensive fires with water, using jet and spray nozzles;
- extinguish fires with foam, powder or any other suitable chemical agent;
- extinguish fire with water fog or other suitable fire-fighting agent in an accommodation room or simulated engine-room with fire and heavy smoke;
- extinguish an oil fire with fog applicator and spray nozzles, dry chemical powder or foam applicators.

Use of breathing apparatus:- each participant should demonstrate ability to check and use the following breathing apparatus:

- smoke helmet type with air pump and hose
- self contained breathing apparatus

Exercises in smoke-filled spaces: - each course participant

should participate in exercises in spaces which provide truly realistic conditions for training in fire-fighting techniques applied aboard ship, where appropriate in darkness, and demonstrate their ability to:

- .1 enter a small room using self contained breathing apparatus when the room is filled with non-toxic artificial smoke
- .2 use the lifeline as a signal line in a smoke-filled space while wearing self contained breathing apparatus
- .3 search for persons (using dummies) in a smoke-filled space while wearing self contained breathing apparatus
- .4 communicate with other team members while wearing self contained breathing apparatus in a smoke-filled space
- .5 fight a fire in a smoke-filled enclosed space wearing self-contained breathing apparatus.

Equipment and facilities required to conduct the training

The following list of equipment is considered to be essential for the stated objectives to be achieved:

- * Building or similar facility for conducting fire fighting exercises under truly realistic conditions (e.g. simulated shipboard conditions) in darkness as well as by daylight.
- * Facilities for recharging compressed air bottles, with spare parts for maintenance
- * Room with work-bench area for inspection and maintenance of breathing apparatus
- * 2 steel fire trays approximately 1m x 1m x 0.3m
- * 2 fire hydrants with 2 outlets each, or similar water supply from open water and a fire pump
- * 1 hose reel
- * Carbonaceous and hydrocarbon fuels that can provide a realistic simulation for internal or external fires
- * Dummies for search and rescue procedures

- * # Fire hoses, branch pipes and jet/spray nozzles of a type normally found aboard merchant ships in accordance with international requirements

- * 1 fog applicator
- * 2 mechanical foam branches
- * 1 in-line inductor for use with above
- * 1 high-expansion foam generator and foam compound
- * # 9-litre water extinguishers
- * # 9-litre foam extinguishers
- * 5-kilogram carbon-dioxide extinguisher
- * 10-kilogram dry powder extinguisher
- * Refills for all types of extinguishers

- * Fire suit (e.g.: fire-protective clothing, gloves, fire-boots, and helmets) for each course participant
- * 2 full harnesses for use with lifelines.

- * 1 self-contained breathing apparatus for every two course participants for use in the practical exercises, complete with spare cylinders, spare parts and maintenance tools (plus sets for use by instructors only)
- * Distress signal units (DSUs) (for use by instructors)
- * Smoke generator

- * Smoke helmets with air pump
 - * 1 stretcher
 - * 1 first aid kit
 - * 1 resuscitation kit with oxygen/suction unit
 - * 2 fire axes
 - * 2 36-metre life/signalling lines with snaphooks
- # As a guide, there should normally be one item, available and maintained ready for use, for every four course participants.

Section Four

Specification for approval of training in elementary first aid

Scope	<p>This training is intended to meet the requirements set out in Section A-VI/1 of the STCW Code for training in elementary first aid and unit A11 of the marine national occupational standards.</p> <p>The training forms part of the requirements for basic training for seafarers employed or engaged in any capacity on board ship on the business of that ship as part of the ship's complement with designated safety or pollution prevention duties in the operation of the ship. The training must be undertaken before new entrants are assigned to any such shipboard duties.</p>
Objectives	<p>The objective of the training is to give all persons intending to go to sea a basic knowledge of the immediate action to be taken upon encountering an accident or other medical emergency aboard ship.</p>
Entry standards	<p>There are no specific entry standards, other than those required for entry to the industry.</p>
Course intake limitations	<p>It is recommended that there should not be more than 12 trainees per instructor or lecturer for practical sessions.</p>
Staff requirements	<p>All training and instruction should be given, and assessments carried out, by personnel qualified to give instruction in first aid (e.g. a medical practitioner, a staff nurse or a person who has obtained certificates in medical first aid and medical care aboard ship or equivalents acceptable to the MCA). All staff must understand the specific objectives of the training and be familiar with the operational environment in merchant vessels.</p> <p>In addition, staff involved should have:</p> <ul style="list-style-type: none"><i>i</i> a knowledge of instructional techniques and of training methods and practice;<i>ii</i> an understanding of assessment methods and practice;<i>iii</i> gained practical instructional and assessment experience under the

supervision and to the satisfaction of experienced personnel.

Facilities and equipment	<p>Centres seeking approval will need to show that they can provide or have access to:</p> <ul style="list-style-type: none"><i>i</i> an area suitable for delivery of the training, bearing in mind the value of role play and small working groups;<i>ii</i> suitable audio visual aids (e.g. videos, posters, diagrams and overhead projector).
Assessment	<p>The training must be organised so that, by demonstration, trainees are able to show that they meet the requirements of column 2 of Table A-VI/1-3 of the STCW Code in accordance with the methods for demonstrating competence shown in column 3 of that table and the criteria for evaluating competence in column 4 (see <i>Annex A</i>).</p> <p>Centres will be required to explain as part of the procedures for approval how these requirements are to be met and the outcomes recorded.</p> <p>A variety of sources of evidence may be used. Direct observation, oral questioning, simulation and role play would be considered ideal approaches to generating much of the evidence required.</p>
Conduct of training	<p>The safety of trainees must be ensured at all times. Centres must draw up their own criteria to meet Health and Safety obligations (see also introduction on page ii).</p> <p>Centres will need to present their training plans as part of the approval process.</p>
Outcomes	<p>The outcomes to be achieved are set out in Table A-VI/1-3 of the STCW Code.</p> <p>All trainees will be required to present sufficient evidence that the criteria specified have been met through practical demonstrations and other appropriate means.</p>
Quality standards	<p>The arrangements for delivering the training and assessing competence must be continuously monitored through a quality standards system to ensure achievement of defined objectives.</p> <p>Centres are required to maintain a quality</p>

standard through documented procedures that shall be inspected and monitored by the MCA at intervals not exceeding five years.

The quality standards system and evaluation arrangements may be part of a centre's overall quality assurance system.

Documentation

Achievement of the desired standard of competence will be attested to by a certificate issued by the centre, in the format shown in *Annex A* to section one. Where appropriate, achievement will be recorded as part of formal assessment procedures.

A certificate cannot be issued prior to approval of the training by the MCA.

Approval

Centres offering training and assessment must be approved by the MCA (see page 3).

**STCW Code: Table A-VI/1-3
Specification of minimum standard of competence in elementary first aid**

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
Competence	Knowledge, Understanding and Proficiency	Methods for Demonstrating Competence	Criteria for Evaluating Competence
Take immediate action upon encountering an accident or other medical emergency	<p>Assessment of needs of casualties and threats to own safety</p> <p>Appreciation of body structure and functions</p> <p>Understanding of immediate measures to be taken in cases of emergency, including the ability to:</p> <ul style="list-style-type: none"> .1 position casualty .2 apply resuscitation techniques .3 control bleeding .4 apply appropriate measures of basic shock management .5 apply appropriate measures in event of burns and scalds, including accidents caused by electric current .6 rescue and transport a casualty .7 improvise bandages and use materials in emergency kit 	Assessment of evidence obtained from approved instruction or during attendance at an approved course	<p>The manner and timing of raising the alarm is appropriate to the circumstances of the accident or medical emergency</p> <p>The identification of probable cause, nature and extent of injuries is prompt and complete and the priority and sequence of actions is proportional to any potential threat to life</p> <p>Risk of further harm to self and casualty is minimised at all times</p>

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Section Five

Specification for approval of training in personal safety and social responsibilities

Scope	<p>This training is intended to meet the requirements set out in Section A-VI/1 of the STCW Code for training in personal safety and social responsibilities.</p> <p>The training forms part of the requirements for basic training for seafarers employed or engaged in any capacity on board ship on the business of that ship as part of the ship's complement with designated safety or pollution prevention duties in the operation of the ship. The training must be undertaken before new entrants are assigned to any such shipboard duties.</p>
Objectives	<p>The objective of the training is to give all persons intending to go to sea a basic induction in safety procedures and accident prevention and to familiarise them with the employment conditions and working environment on board merchant vessels.</p>
Entry standards	<p>There are no specific entry standards, other than those required for entry to the industry.</p>
Course intake limitations	<p>It is recommended that there should not be more than 25 trainees per instructor or lecturer.</p>
Staff requirements	<p>All training and instruction should be given, and assessments carried out, by properly qualified personnel. All staff must have suitable marine experience, understand the specific objectives of the training and be familiar with the operational environment in merchant vessels.</p> <p>In addition, staff involved should have:</p> <ul style="list-style-type: none"><i>i</i> a knowledge of instructional techniques and of training methods and practice;<i>ii</i> an understanding of assessment methods and practice;<i>iii</i> have gained practical instructional and assessment experience under the supervision and to the satisfaction of experienced personnel.

Facilities and equipment	<p>Centres seeking approval will need to show that they can provide or have access to:</p> <ul style="list-style-type: none"> <i>i</i> an area suitable for delivery of the training, bearing in mind the value of role play and small working groups; <i>ii</i> suitable audio visual aids (e.g. videos, posters, diagrams and overhead projector). <p>Training may be delivered aboard ship or ashore. Where it is carried out ashore, it is recommended that wherever possible visits to ships are arranged as part of the familiarisation and induction process.</p>
Assessment	<p>The training must be organised so that, by demonstration, trainees are able to show that they meet the requirements of column 2 of Table A-VI/1-4 of the STCW Code in accordance with the methods for demonstrating competence shown in column 3 of that table and the criteria for evaluating competence in column 4 (see <i>Annex A</i>).</p> <p>Centres will be required to explain as part of the procedures for approval how these requirements are to be met and the outcomes recorded.</p> <p>A variety of sources of evidence may be used. Oral questioning, simulation and role play would be considered ideal approaches to generating much of the evidence required.</p>
Conduct of training	<p>Centres will need to present their training plans as part of the approval process.</p>
Outcomes	<p>The outcomes to be achieved are set out in Table A-VI/1-4 of the STCW Code.</p>
Quality standards	<p>The arrangements for delivering the training and assessing competence must be continuously monitored through a quality standards system to ensure achievement of defined objectives.</p> <p>Centres are required to maintain a quality standard through documented procedures that shall be inspected and monitored by the MCA at intervals not exceeding five years.</p>

The quality standards system and evaluation arrangements may be part of a centre's overall quality assurance system.

Documentation

Achievement of the desired standard of competence will be attested to by a certificate issued by the centre, in the format shown in *Annex A* to section one.

A certificate cannot be issued prior to approval of the training by the MCA.

Approval

Centres offering training and assessment must be approved by the MCA (see page 3).

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**STCW Code: Table A-VI/1-4
Specification of minimum standard of competence in personal safety and social responsibilities**

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
Competence	Knowledge, Understanding and Proficiency	Methods for Demonstrating Competence	Criteria for Evaluating Competence
Comply with emergency procedures	<p>Types of emergency which may occur, such as collision, fire, foundering</p> <p>Knowledge of shipboard contingency plans for response to emergencies</p> <p>Emergency signals and specific duties allocated to crew members in the muster list; muster stations, correct use of personal safety equipment</p> <p>Action to take on discovering potential emergency, including fire, collision, foundering and ingress of water into the ship</p> <p>Action to take on hearing emergency alarm signals</p> <p>Value of training and drills</p> <p>Knowledge of escape routes and internal communication and alarm systems</p>	Assessment of evidence obtained from approved instruction or during attendance at an approved course	<p>Initial action on becoming aware of an emergency conforms to established emergency response procedures</p> <p>Information given on raising alarm is prompt, accurate, complete and clear</p>
Take precautions to prevent pollution of the marine environment	<p>Effects of operational or accidental pollution of the marine environment</p> <p>Basic environmental protection procedures</p>	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Organisational procedures designed to safeguard the marine environment are observed at all times

Competence	Knowledge, Understanding and Proficiency	Methods for Demonstrating Competence	Criteria for Evaluating Competence
Observe safe working practices	<p>Importance of adhering to safe working practices at all times</p> <p>Safety and protective devices available to protect against potential hazards aboard ship</p> <p>Precautions to be taken prior to entering enclosed spaces</p> <p>Familiarisation with international measures concerning accident prevention and occupational health *</p>	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times
Understand orders and be understood in relation to shipboard duties	Ability to understand orders and to communicate with others in relation to shipboard duties	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Communications are clear and effective at all times
Contribute to effective human relationships on board ship	<p>Importance of maintaining good human and working relationships aboard ship</p> <p>Social responsibilities; employment conditions; individual rights and obligations; dangers of drug and alcohol abuse</p>	Assessment of evidence obtained from approved instruction or during attendance at an approved course	Expected standards of work and behaviour are observed at all times

* The ILO Code of Practice on "Accident Prevention on Board Ship at Sea and in Port" may be of assistance in the preparation of courses

