

**MODEL
COURSE
1.33**

**SAFETY OF FISHING
OPERATIONS
(SUPPORT LEVEL)**

2005 Edition

Course + Compendium

Electronic Edition

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(SUPPORT LEVEL)**

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COURSE + COMPENDIUM

ELECTRONIC EDITION

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Foreword

Since its inception, the International Maritime Organization (IMO) has recognized the importance of human resources to the development of the maritime industry and has given the highest priority to assisting developing countries in enhancing their maritime training capabilities through the provision or improvement of maritime training facilities at national and regional levels. IMO has also responded to the needs of developing countries for postgraduate training for senior personnel in administrations, ports, shipping companies and maritime training institutes by establishing the world Maritime University in Malmö, Sweden, in 1983.

Following the adoption of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978, a number of IMO Member Governments suggested that IMO should develop model training courses to assist in the implementation of the Convention and in achieving a more rapid transfer of information and skills regarding new developments in maritime technology. IMO training advisers and consultants also subsequently determined from their visits to training establishments in developing countries that the provision of model courses could help instructors improve the quality of their existing courses and enhance their implementation of associated Conference and IMO Assembly resolutions.

In addition, it was appreciated that a comprehensive set of short model courses in various fields of maritime training would supplement the instruction provided by maritime academies and allow administrators and technical specialists already employed in maritime administrations, ports and shipping companies to improve their knowledge and skills in certain specialized fields. With the generous assistance of the Government of Norway, IMO developed model courses in response to these generally identified needs and now keeps them updated through a regular revision process, taking into account any amendments to the requirements prescribed in IMO instruments and any technological developments in the field.

These model courses may be used by any training institution and, when the requisite financing is available, the Organization is prepared to assist developing countries in implementing any course.

E. E. MITROPOULOS
Secretary-General

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Introduction

■ Purpose of the model courses

The purpose of the IMO model courses is to assist maritime training institutes and their teaching staff in organizing and introducing new training courses, or in enhancing, updating or supplementing existing training material where the quality and effectiveness of the training courses may thereby be improved.

It is not the intention of the model course programme to present instructors with a rigid 'teaching package' which they are expected to 'follow blindly'. Nor is it the intention to substitute audio visual or 'programmed' material in place of the instructor. As in all training endeavours, the knowledge, skills and dedication of the instructor are the key components in the transfer of knowledge and skills to those being trained through IMO model course material.

Because educational systems and the cultural backgrounds of trainees in maritime subjects vary considerably from country to country, the model course material has been designed to identify the basic entry requirements and trainee target group for each course in universally applicable terms, and the skill necessary to meet the technical intent of IMO conventions and related recommendations.

■ Use of the model course

To use the model course the instructor should review the course plan and detailed syllabus, taking into account the information provided under the entry standards specified in the course framework. The actual level of knowledge and skills and prior technical education of the trainees should be kept in mind during this review, and any areas within the detailed syllabus which may cause difficulties because of differences between the actual trainee entry level and that assumed by the course designer should be identified. To compensate for such differences, the instructor is expected to delete from the course, or reduce the emphasis on, items dealing with knowledge or skills already attained by the trainees. He should also identify any academic knowledge, skills or technical training which they may not have acquired.

By analysing the detailed syllabus and the academic knowledge required to allow training in the technical area to proceed, the instructor can design an appropriate pre-entry course or, alternatively, insert the elements of academic knowledge required to support the technical training elements concerned at appropriate points within the technical course.

Adjustment of the course objectives, scope and content may also be necessary if in your maritime industry the trainees completing the course are to undertake duties which differ from the course objectives specified in the model course.

Within the course plan the course designers have indicated their assessment of the time which should be allotted to each learning area. However, it must be appreciated that these allocations are arbitrary and assume that the trainees have fully met all the entry requirements of the course. The instructor should therefore review these assessments and may need to reallocate the time required to achieve each specific learning objective.

■ Lesson plans

Having adjusted the course content to suit the trainee intake and any revision of the course objectives, the instructor should draw up lesson plans based on the detailed syllabus. The detailed syllabus contains specific references to the textbooks or teaching material proposed to be used in the course. An example of a lesson plan is shown in the instructor manual. Where no adjustment has been found necessary in the learning objectives of the detailed syllabus, the lesson plans may simply consist of the detailed syllabus with keywords or other reminders added to assist the instructor in making his presentation of the material.

■ Presentation

The presentation of concepts and methodologies must be repeated in various ways until the instructor is satisfied, by testing and evaluating the trainee's performance and achievements, that the trainee has attained each specific learning objective or training outcome. The syllabus is laid out in learning objective format and each objective specifies a required performance or, what the trainee must be able to do as the learning or training outcome. Taken as a whole, these objectives aim to meet the knowledge, understanding and proficiency specified in the appropriate sections of the IMO/FAO/ILO Document for Guidance on Training and Certification of Fishing Vessel Personnel.

■ Implementation

For the course to run smoothly and to be effective, considerable attention must be paid to the availability and use of:

- properly qualified instructors
- support staff
- rooms and other spaces
- equipment
- textbooks, technical papers
- other reference material.

Thorough preparation is the key to successful implementation of the course. IMO has produced a booklet entitled 'Guidance on the implementation of IMO model courses', which deals with this aspect in greater detail.

■ Training and the STCW-F 1995 Convention

The standards of competence that have to be met by fishermen are defined in the STCW-F 95, the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel. This specific model course was developed on the requirements laid out in the STCW-F document 1995. The structure of this model course is based on the regulations stated in the said document and which are partially reproduced below:

CHAPTER III

Regulation 1

Basic safety training for all fishing vessel personnel.

1. Fishing vessel personnel shall, before being assigned to any shipboard duties, receive basic safety training approved by the administration in the following areas:
 - .1 personal survival techniques, including donning of lifejackets and, as appropriate, immersion suits;
 - .2 fire prevention and fire fighting;
 - .3 emergency procedures
 - .4 elementary first aid;
 - .5 prevention of marine pollution; and
 - .6 prevention of shipboard accidents.

It should be emphasized that the structure of the model course was developed in reference to safety training requirements for .6 above, prevention of shipboard accidents, and for none of the above other elements from .1 to .5.

Additionally the subject matter is also aligned to resolution 4, Training of deckhands onboard fishing vessels of 24 metres in length and over, and its annex in 2.2 with the relevant passages copied below:

Resolution 4

Training of deckhands onboard fishing vessels 24 metres and over

Annex

2.2 be familiar with the dangers associated with the fishing operations such as shooting the fishing gear into the water, hauling the fishing gear and landing the catch onboard.

The course structure also follows the more detailed requirements of the STCW-F 95 Convention from the IMO/FAO/ILO Document for Guidance on Training and Certification of Fishing Vessel Personnel, chapter 2 (para. 2.1, fig. 2.1.1.4 and para. 2.16, fig. 2.16.2.1.1), chapter 3 (para. 3.25), and chapter 6. The detailed teaching syllabus is based in part on section 6.29, fig. 6.29.6, and appendix 34 of the IMO/FAO/ILO guidance document.

The model course includes an annex as a teaching compendium to assist instructors with relevant safety material for the model course.

Part A provides the framework for the course with its aims and objectives and notes on the suggested teaching facilities and equipment. A list of useful teaching aids, IMO references and textbooks is also included.

Part B provides an outline of lectures, demonstrations and exercises for the course. A suggested timetable is included but from the teaching and learning point of view, it is more important that the trainee achieves the minimum standard of competence defined in the STCW-F 1995 regulations and the criteria to demonstrate competence will be evaluated

according to the FAO/ILO/IMO Document for Guidance on Training and Certification of Fishing Vessel Personnel. Depending on their experience and ability, some students will naturally take longer to become proficient in some topics than in others. Also included in this section are guidance notes and additional explanations.

Part C gives the Detailed Teaching Syllabus. This is based on the theoretical and practical knowledge specified in the FAO/ILO/IMO Document for Guidance on Training and Certification of Fishing Vessel Personnel. It is written as a series of learning objectives, in other words what the trainee is expected to be able to do as a result of the teaching and training. Each of the objectives is expanded to define a required performance of knowledge, understanding and proficiency. IMO references, textbook references and suggested teaching aids are included to assist the teacher in designing lessons.

Part D gives specific advice to instructors. The new training requirements for these competences are addressed in the appropriate parts of the detailed teaching syllabus.

■ **Responsibilities of Administrations**

Administrations should ensure that training courses delivered by colleges and academies are such as to ensure those completing training do meet the standards of competence required by STCW-F 1995 Regulation III/1.6 and Attachment 2, Resolution 4 Annex 2.2 and the appropriate guidance in the FAO/ILO/IMO Document for Guidance on Training and Certification of Fishing Vessel Personnel.

■ **Validation**

The Sub-Committee on Standards of Training and Watchkeeping has validated the information contained in this document for use by administrations and training providers for the training and certification of fishing vessel personnel so that the minimum standards implemented may be as uniform as possible. Validation in the context of this document means that the Sub-Committee has found no grounds to object to its content.

Part A: Course Framework

■ Aims

This model course aims to provide the training for candidates to undertake fishing operations on board ship, in accordance with Chapter III, Regulation 1.6, and Attachment 2, Resolution 4, Annex 2.2, of the IMO STCW-F 1995.

■ Objective

This syllabus covers the requirements of the STCW-F 1995 Convention and IMO/FAO/ILO Document for Guidance on Training and Certification of Fishing Vessel Personnel, Chapter 6.24 and 6.29. On meeting the minimum standard of competence in fishing operations, a trainee will be competent to understand the fishing methods and associated fishing gear and to safely engage in fishing operation under the supervision of an experienced deckhand.

■ Entry standards

The course is open to all fishing vessel personnel that are to serve on board sea-going fishing vessels. There are no particular educational entry requirements.

■ Course certificate

On successful completion of the course and demonstration of competence, a document may be issued certifying that the holder has met the standard of competence specified in the STCW-F 1995 Convention. A certificate may be issued by Administrations and other organizations approved by the Administration.

■ Course intake limitations

The maximum number of trainees attending each session will depend on the availability of instructors, equipment and facilities for conducting the training. It should not exceed 10 to 12 trainees per instructor.

■ Staff requirements

The course should preferably be under the control of a qualified fishery-training instructor assisted by other appropriately trained staff. Suitable staff to instruct trainee deckhands can be as follows:

- Master Mariner.
- Skipper (Fishing) with some experience in teaching.
- Training instructor or qualified teacher with sea experience.
- Any qualified Deck Officer with teaching/training qualification.

■ Teaching facilities and equipment

Ordinary classroom facilities including a computer and an overhead projector are required for the lectures. When making use of audio-visual material such as videos or slides, make sure the appropriate equipment is available.

Smaller rooms for practical instruction, demonstration and workshop exercises should be available.

The following equipment should be made available where possible and appropriate:

- Fishing operations blocks, sheaves, towing block, marker buoy, purse rings in used or damaged condition.
- Various types of steel, synthetic, natural ropes, chains, marker buoys, mainlines and branch lines in new and in used or damaged condition.
- Scale model-fishing gear for key methods discussed.
- Scale model-fishing vessels for key methods discussed.
- Small winch and warping barrel and net/line hauler.
- Fish boxes and lifting hooks.

Where possible familiarization visits to appropriate fishing vessels to examine the fishroom, fishing gear, deck fishing systems and workstations for that method, should be carried out by the instructor.

For appropriate vessels such as factory ships, visits to fish-processing factory and net and rope manufacturers is also advisable.

■ Teaching aids (A)

It is suggested to course instructors that they provide some visual aids to students in the form of film, video and DVDs. The subject matter should concern itself with safety issues in fishing operations as per local or national fishing methods.

■ IMO and other references (R)

- R1 International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel, 1995 (STCW-F 95)
- R2 FAO/ILO/IMO Document for Guidance on Training and Certification of Fishing Vessel Personnel (2001 ed)
- R3 Code of Safety for Fishermen and Fishing Vessels 1975, amended 1981/1983

Commercial Fishing Methods: An
Introduction to Vessels and Gear

John C. Sainsbury

Fishermen's Handbook

Rear Admiral C.R.P.C. Branson

FAO Catalogue of Small
Scale Fishing Gear

C. Nedelec / J. Prado

FAO Fisherman's Workbook
Fisheries Industries Division

J. Prado

Details of distributors of IMO publications that maintain a permanent stock of all IMO publications may be found on the IMO website at <http://www.imo.org>

■ Textbooks (T)

- T1 A Compendium is provided as an annex of this model course for using teaching aids. This also contains selected extracts from Code of Safety for Fishermen and Fishing Vessels 1975 (Part A). (Sales No. I749E). (Ref. R3)

Part B: Course Outline and Timetable

■ Lectures

As far as possible, lectures should be presented within a familiar context and should make use of practical examples. They should be well illustrated with diagrams, photographs and charts where appropriate, and be related to life at sea.

An effective manner of presentation is to develop a technique of giving information and then reinforcing it. For example, first tell the trainees briefly what you are going to present to them; then cover the topic in detail; and, finally, summarize what you have told them. The use of an overhead projector and the distribution of copies of the transparencies as trainees' handouts contribute to the learning process.

■ Course outline

The tables that follow list the competencies and areas of knowledge, understanding and proficiency, together with the estimated total hours required for lectures and practical exercises. Teaching staff should note that timings are suggestions only and should be adapted to suit individual groups of trainees depending on their experience, ability, equipment and staff available for training.

■ Course Outline

Competence: Deckhand to be familiar with the dangers associated with fishing operations such as, releasing the fishing gear into the water, hauling the fishing gear and landing the catch onboard.

Course Outline	Approximate time (hours)
Knowledge, understanding and proficiency	Lectures, demonstrations and practical work
1 <i>Introduction</i>	0.5
2 <i>Basic Safety Awareness</i>	2.5
3 <i>Fishing Methods</i>	1.5
4 <i>Fishing Systems</i>	2.0
5 <i>Releasing the Fishing Gear</i>	1.0
6 <i>Fish Catching</i>	1.0
7 <i>Recovering the Fishing Gear</i>	1.0
8 <i>Damaged Fishing Gear</i>	1.0
9 <i>Maintenance of Fishing Gear</i>	1.0
10 <i>Fishing Operations Safety</i>	2.0
11 <i>Practices for Purse Seine</i>	1.0
12 <i>Processing and Fishroom Practices</i>	1.0
13 <i>Summary</i>	0.5
TOTAL	16

Note: Teaching staff should note that outlines are suggestions only as regards sequence and length of time allocated to each objective. These factors may be adapted by lecturers to suit individual groups of trainees depending on their experience, ability, equipment and staff available for training.

■ Course Timetable

Period/Day	1st Day	2nd Day
1st Period (2 hours)	1 Introduction Basic safety awareness	5 Recovering the fishing gear Damaged fishing gear
2nd Period (2 hours)	2 Identify and sketch the different fishing methods and fishing systems	6 Maintenance of fishing gear Fishing operations safety
LUNCH BREAK		
3rd Period (2 hours)	3 Sketch the fishing systems machinery and workstations (continued)	7 Fishing operations safety (continued) Practices for purse seine
4th Period (2 hours)	4 Releasing the fishing gear Fish catching	8 Processing and fishroom practices Summarise

Teaching staff should note that the hours for lectures and exercises are suggestions only as regards sequence and length of time allocated to each objective. These factors may be adapted by the lecturer, to suit individual groups of trainees, depending on their experience, ability, equipment and staff available for teaching.

Part C: Detailed Teaching Syllabus

■ Introduction

This teaching syllabus has been written in learning objective format in which the objective describes what the student must do to demonstrate that knowledge has been transferred.

All objectives are understood to be prefixed by the words, 'The expected learning outcome is that the trainee will be able ...'.

In order to assist the lecturer, references are shown against the learning objectives to indicate IMO references and publications, textbooks, additional technical material and teaching aids, which the lecturer may wish to use when preparing course material. The material listed in the course framework has been used to structure the detailed teaching syllabus; in particular,

IMO references (indicated by R), and

Textbooks (indicated by T)

will provide valuable information to lecturers. The abbreviations used are:

App.	Appendix
Anx.	Annex
Ch.	chapter
pa.	Paragraph
p., pp.	page, pages
Reg.	Regulation
Sect.	Section
Attach.	Attachment

The following are examples of the use of references:

- **R2, Ch.6, App.34** refers to Appendix 34, Chapter 6 of IMO/FAO/ILO Document for Guidance 2001 Edition
- **R3, Ch.5 Sect. 5.2. pa 5.2.1** refers to Code of Safety for Fishermen and Fishing Vessels 1975 (Part A)
- **R1, Ch. III Reg. 1.1.6** refers to STCW-F 95 Chapter III, Regulation 1.1.6
- **R1, Reg. 4 App. 10.1** refers to STCW-F 95 Regulation 4 Appendix 10.1

■ Note

Throughout the course, safe working practices are to be clearly defined and emphasized with reference to current international requirements and regulations.

It is expected that the national institutions implementing the course will insert references to national requirements.

The syllabus has been developed for use in a classroom environment; however, it is recommended, where possible, that onboard application of the performances be applied. Alternatively, for institutions having fishing simulators, it should be employed where possible.

Learning Objectives	IMO Ref.	Textbook	Syllabus Video Ref.
COMPETENCE: Deckhand to be familiar with the dangers and practice associated with fishing operations such as: releasing the fishing gear into the water, hauling the fishing gear and landing the catch onboard. Knowledge, understanding and proficiency Appreciation of fishing methods, the fishing gear and its function Understanding of actions to be taken during fishing operations, including: 1 awareness of fishing operations safety 2 the release of various fishing gears 3 actions during the fish catching phase 4 how to recover the fishing gear 5 how to recover damaged fishing gears safely 6 the need for maintenance of the fishing gears 7 apply fishing operations safely 8 safety practices for purse seine 9 processing and fishroom safety practices Objectives are: 1. The identification of fishing methods and their fishing gear, fishing operations sequences and workstations. 2. Recognize the appropriate safety responses and actions applicable for the prevailing situations during fishing operations. 3. To reduce the potential for accidents through maintenance and risk assessed safety practices	R1 Ch.3 Reg. 1.6 Attach.2 Res. 4 Anx. 2.2		1 3,4,5 2 5 6 7 8 9,10 11 12

Learning Objectives	IMO Ref.	Textbook	Syllabus Video Ref.
1 Introduction			
1.1 Outline the scope of subjects to be addressed			
2 Basic Safety Awareness	R2 Ch.6.29.6.9		
<i>Social environmental and living conditions</i>			
2.1 Describe the layout of typical fishing vessel, including living and working areas		T1	
2.2 List your tasks and duties onboard and periods of work and rest		pp. 47–55	
2.3 Describe typical onboard working environment including air temperature and humidity			
2.4 Describe the effect of weather on the behaviour of the vessel and how this might affect you			
2.5 Describe the effect of seasickness on human behaviour			
2.6 List essential safety equipment and instructions for safe working practices			
<i>Working environment</i>			
2.7 Describe the effect on fishing operations of vessel movement in waves and breaking waves		pp. 54–55	
2.8 Describe the difficulties for recovering fishing gear in heavy waters			
<i>Safety on deck</i>	R3	T1	
2.9 Indicate the basic safety precautions when:	4.3.8		
• working alone on deck in bad weather	4.3.5	pp. 47–50	
• Trying to reach fishing gear outboard in heavy weather			
2.10 Indicate what actions you might take to ensure your safety before:	R3	T1	
	4.3.4/7	pp. 51, 52	
• working on the main deck while steaming	7.4.1		
• going aloft to repair navigation light	4.5.4		
2.11 Demonstrate and describe the equipment and/or clothing needed for:	R3	T1	
		pp. 54–58	
• entering a compartment or room that may have gas	7.4.5		
	7.2.5		
• working in a fish room used to store frozen fish	5.7.3		

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Learning Objectives	IMO Ref.	Text-Book	Syllabus Video Ref.
5 Releasing the Fishing Gear Required performance: 5.1 Describe and sketch the sequence of events in releasing (shooting) the fishing gear for any two of the following: • stern trawling • purse seine • shellfish or fish traps • one method of your own choosing 5.2 Identify the main hazards of working on the main deck during fishing operations when: • the otterboards are surfacing • hauling at the line hauler • working at the stern ramp end or bulwark rail • baiting hooks or handling lines or traps	R2 Ch.6.29.6. R3 5.2.21 5.5.8	T1 p. 10 p. 37 p. 28 p. 5 pp. 19–25	
6 Fish Catching Required performance: 6.1 Recognize the safety and operational issues when: • setting the manually operated main winch brakes for towing • monitoring the seine net ropes for tension • monitoring the warp behaviour when towing a trawl	R2 Ch.6.29.6.3 R3 6.2.9 5.4.4	T1 pp. 34–35 pp. 41–43 pp. 19–24	
7 Recovering the Fishing Gear Required performance: 7.1 Describe and sketch the sequence of events when recovering the fishing gear in terms of: • purse seine • a method of your choice • any static net method 7.2 Demonstrate the appropriate safety precautions when: • operating winch controls • hauling using a line hauler • removing dangerous fish from a hook • needing to stand below a purse seine power block • signalling by hand/voice	R2 Ch.6.29.6.4 R3 6.2.15/16 5.5.8 5.5.5 5.3.6 5.2.6	T1 pp. 38–40 pp. 29–30 p. 23 p. 35 p. 43 p. 22	

Learning Objectives	IMO Ref.	Textbook	Syllabus Video Ref.
8 Damaged Fishing Gear Required performance: 8.1 Discuss the dangers and actions on deck when damaged fishing gear is being retrieved if: • disrupted or changed work procedures • reaching outboard • near moving ground rigging and warp • handling lines and hooks • in heavy weather or pitching or rolling of the vessel • stoppering ropes and foul gear	R2 Ch.6.29.6.4 R3 4.3.1 4.416 5.5.13 4.3.2	T1 pp. 44,45	
9 Maintenance of Fishing Gear Required performance: 9.1 Indicate the wear and tear signs that reveal a need for safety maintenance for the following components: • herding bridles • otterboards • ground rigging shackles • running sheaves/blocks and their shackles • danish seine net herding ropes • purse wire and rings • mainlines and branchlines	R2 Ch.6.31.1 R3 4.4.5 6.2.12 5.1.2 6.2.11 6.2.19	T1 pp. 45–47	
10 Fishing Operations Safety Required performance: 10.1 Specify the main safety issues during fishing operations when: • releasing a marker buoy or anchor outboard • connecting two ropes using G link clips • setting a purse seine net • releasing trapped netting • pumping large catch of fish onboard from the net	R2 Ch.6.29.6.9 R3 5.2.5 5.3.2 5.3.7	T1 pp. 3,26,32 pp. 46, 42 pp. 5,37,42 T1	

Learning Objectives	IMO Ref.	Textbook	Syllabus Video Ref.
10.2 Discuss the dangers and actions of working during fishing operations in these areas: • bollards, fairleads and blocks • running wires or warp • stern or ramp • blocking the warp at the towing block aft • operating a line or net hauler • shooting tubs or racks of lines and hooks	R3 5.2.2 5.1.4 5.2.7 5.2.1 5.5.8 5.5.12	pp. 21–46 pp. 51–56 pp. 3,23 pp. 34, 41	
10.3 State the likely accident outcome on deck during fishing operations when: • standing on loose rigging or netting, still outboard • standing or crossing under a hoisted object or net • working in the vicinity of an open hatch • wearing rings on a finger	R3 5.1.6 5.2.19 3.3.3 5.1.3	T1 p.45 p. 42 p. 20	
10.4 Indicate his actions when working with the fishing gear and in particular: .1 clearing foul rope or fishing gear .2 unfamiliar objects in the net when retrieving the net .3 outrunning fishing gear and ropes or warp .4 when clearing a rope/line from the sheave of a block	R3 5.1.7 5.1 5.1.5/6 5.1.9	p. 20 pp. 21, 30 p. 46	
10.5 Demonstrate and describe the appropriate procedures for using a winch and in particular when: .1 using a rope on the warping drums .2 operating the winch controls .3 examining the wire ropes for use .4 lifting a heavy load	R3 6.2.14 6.2.15/16 6.2.19 6.2.13	T1 p. 53 p. 54 p. 24	
10.6 Describe the appropriate actions or the effect on the use of ropes when: • withdrawing a rope from a new coil • jerking a rope under tension • exposed to weather and sunlight • removing a kink in a rope • discarding nets or ropes and other gear	R3 4.4.7 4.4.9 4.4.6 4.4.8 4.4.15	T1 p. 24 p. 51	

Learning Objectives	IMO Ref.	Textbook	Syllabus Video Ref.
11 Practices for Purse Seine Required performance: 11.1 Recognize how you might improve safety when carrying out fishing operations - if fish lie heavily in the net - when handling a big catch in the net - stowage of extension rope - setting the net using a drogue or skiff - stowing purse ring bridle - stowing the net - working below a power block 11.2 Discuss what action you would consider good safety practice: - when stowing purse ring bridles - as winch man releasing the purse wire when setting the net - pumping or brailing the catch into the hold - when using the skiff or small boat	R2 Ch.6.29.6.9 R3 5.3.7 5.3.4 5.3.2 5.3.1 5.3.11 5.3.6 R3 5.3.1 5.3.3 5.3.7 5.3.16	T1 pp. 36–38 T1 pp.39–43	
12 Processing and Fishroom Practices 12.1 Discuss the safety issues when engaged in the following practices on deck or in the factory: - handling or moving whole frozen fish blocks - using seawater hoses in enclosed spaces or factory - opening the fish waste chute 12.2 Indicate the safety benefits for: - cleanliness in the processing factory - self-protection issues for safe operation in the factory - good hygiene when processing fish 12.3 State the main problems causing accidents when: - using fish gutting machinery - operating banding machinery - working with conveyor belts 12.4 Eviscerate fish safely: - state the safety issues existing when using a knife to gut fish and why a sharp knife is important - describe the correct clothing for safe working in gutting and processing fish	R2 Ch.6.29.6.9 R3 5.7.3 R3 7.2.6 7.2.8/9 T1 R3 6.6.1/2/3 6.4/5 7.2	T1 p. 56 p. 58 T1 p. 57 p. 58 T1 p. 56	

Learning Objectives	IMO Ref.	Text-Book	Syllabus Video Ref.
12.5 Demonstrate the correct procedure and recognize the hazards when: - operating plate freezers - lifting and stowing frozen blocks of fish		p. 56	
12.6 Demonstrate the correct procedures when: - stacking boxed fish in the fishroom to ensure their stability in all weathers - lifting a box of fish to minimize back injuries - boxes of fish are hoisted during discharge or stowage - using old stored ice in the fishroom	R3 4.5.5 5.7.5	T1 p. 57	
12.7 In enclosed spaces: - recognize the dangers of entry into confined spaces or fishroom tanks - state that the internal atmosphere may contain dangerous gases or insufficient oxygen - recognize the safety issues for making a safe entry into the fishroom or tanks - state the dangers working near or entering a hatch opening	R3 7.4.5 7.4.9	T1 p. 57	
13 Summary Discuss with students the course topics with particular emphasis on fishing systems and their safe operation.			

Part D: Instructor Manual

Introduction

This manual is intended to provide guidance on the material that is to be presented during the course. The course is based on the STCW-F 95 Convention and the recommendations in chapters 2, 3 and 6 of the IMO/FAO/ILO Document for Guidance on Training and Certification of Fishing Vessel Personnel (2001 Edition); requirements in:

STCW-F 95, CHAPTER III

Regulation 1

Basic safety training for all fishing vessel personnel

1.6 Prevention of shipboard accidents

Resolution 4

Training of deck-hands onboard fishing vessels of 24 metres and over.

Annex

2.2 Be familiar with the dangers associated with fishing operations such as shooting the fishing gear into the water, hauling the fishing gear and landing the catch onboard.

When delivering this course and in particular section 2 on Basic Safety Awareness emphasis should be placed on relating the course topics to the actual working environment encountered on fishing vessels. The hazards/risks associated with the general working environment that will be encountered on board a fishing vessel should be described and the opportunity should be taken to expand on the living conditions that are to be found on fishing vessels and the problems associated with this.

It is important to consider the working environment of the new entry or trainee fishermen and the inherent dangers it may pose. Therefore, it was felt necessary to include this in the teaching syllabus. Factors of concern are:

- Visual: such as artificial lighting, poor visibility in snowstorms, etc.
- Physical: Confined spaces and awkward machinery
- Sea: rolling, heaving or surging ship
- Wind: strong gusting winds
- Personal: sea sickness and lack of personal stability, i.e. no sea legs, fatigue
- Vessel: familiarization, behaviour
- Social: crew relationships, isolation

The instructor should consider all of these factors and how they influence the working environment onboard ship and how they affect the trainee in carrying out his duties. To this end it would be useful if teachers/instructors include their own experiences. In the attached

compendium for safety of fishing operations are basic safety extracts, relating to all fishing vessels and their systems see:

- Awareness (during fishing operations)
- Weather (during fishing operations and navigations)
- Basic safety awareness (at all times)

These are taken from the Code of Safety for Fishermen and Fishing Vessels (Part A) and instructors may appropriate and include in their syllabus the particular and relevant sections for their particular fishery.

A Course Compendium (T1) has been compiled by the author, making use of extracts from the Code of Safety for Fishermen and Fishing Vessels (Part A) (R3), and this should be used to implement and support the course work, introducing specific national requirements as appropriate.

The detailed teaching syllabus is arranged in eleven main sections, which reflect the requirements in IMO/FAO/ILO Document for Guidance, 2001 Edition. Where supporting material is available in the Course Compendium (T1) an appropriate reference to it is indicated in the detailed teaching syllabus.

The times allocated for each section are suggested values, and the instructor should adjust them as necessary. In particular, it may be found necessary to increase the time allocated for practical applications to ensure that the trainees can demonstrate their competence to carry out the procedures and measures effectively.

Guidance notes

Chapter III Regulation 1 Section 1 requires that fishing vessel personnel shall, before being assigned to any shipboard duties, receive basic training approved by the Administration in prevention of shipboard accidents.

The minimum standard of competence is set out in STCW-F 95 Convention and the recommendations in Chapter 2 of the IMO/FAO/ILO Document for Guidance, Training and Certification of Fishing Vessel Personnel. All fishermen should receive this elementary pre-sea training, i.e. before service aboard any vessel. It provides the fishermen with some preparedness for the potentially hazardous environment on board vessels.

The training ensures that the fishermen are equipped to work safely on deck while fishing operations are in progress.

The aim should be to familiarize the trainees with the safety practices and problems commonly found aboard vessels and the actions and procedures that can be immediately applied in any given situation. In particular the training should ensure that all fishermen are able, in the working environment, to understand and assess the fishing operation and the hazards to themselves.

Although the lectures based on the detailed teaching syllabus are important in informing and explaining and making sure that emphasis is placed on critical aspects, the practical sessions are of equal importance in establishing that understanding and knowledge have

been properly transferred and, therefore, wherever it is practicable to do so, the trainees should demonstrate the actual procedures involved.

To support the objectives of the syllabus, a compendium has been compiled; a copy of this should be provided to each trainee taking the course.

The compendium for this course also consists of the following extracts from the Code of Safety for Fishermen and Fishing Vessels (Part A):

Chapter 4: Safety on Deck

Chapter 5: Safety in Fishing Operations

Chapter 6: Safety in Mechanical Spaces and of Mechanical Spaces

Chapter 7: Special Safety Precautions

Only certain parts of the chapters 6 and 7 relate directly to the syllabus objectives; it was therefore considered preferable to provide the whole of these chapters, rather than parts of them.

Table 1: Extracts from Code of Safety for Fishermen and Fishing Vessels used in the Compendium

The following table shows the relevant pages and figures from **Code of Safety for Fishermen and Fishing Vessels** used to support each section of the syllabus.

Section of Syllabus	Extract used from Textbook & R3*
2 Basic Safety Awareness	Chapter. 4.1 T1 pp. 47–55
3 Fishing Methods	T1 pp. 1–4
4 Fishing Systems	T1 pp. 4–41
5 Releasing the Fishing Gear	R3 Ch. 5.2. Ch. 5.3, T1 pp. 10–37
6 Fish Catching	R3 Ch. 5.2, Ch. 5.3, Ch. 5.5, Ch. 6.2, T1 pp. 19– 40
7 Recovering the Fishing Gear	R3 Ch. 5.2, Ch. 5.3, Ch. 5.5 pp. 35, 36 T1 pp. 29–40
8 Damaged Fishing Gear	R3 Ch. 4.4, Ch. 5.1, Ch. 5.3, Ch. 5.5 T1 pp. 44–45
9 Maintenance of the Fishing Gear	R3 Ch. 4.4, Ch. 6.2, T1 pp. 45–46
10 Fishing Operations Safety	R3 Ch. 4.4, Ch. 5.1, Ch. 5.2, Ch. 5.3, Ch. 5.5, Ch. 6.2.2, plus Ch. 7.2, R3 Ch. 4.1, Ch. 4.4, Ch. 6.2. T1 pp. 19–41
11 Practices for purse seine	R3 Ch. 5.3. T1 pp. 36– 40
12 Processing and Fishroom Practices	R3 Ch. 5.7 , Ch. 6.6 Ch. 7.2 , Ch. 7.5 T1 pp. 56–59

* The chapters (Ch.) and page numbers (p.) quoted are those in R3 or the attached compendium textbook (T1).

SAMPLE LESSON PLAN 1

COURSE: SAFETY OF FISHING OPERATIONS (Support Level) Duration: 15 Minutes: Lecture

TRAINING AREA: 5. Recovering the Fishing Gear 30 Minutes: Demonstration/Practical

Main element	Specific learning objective	Teaching method	Textbook	IMO ref.	AV aid	Instructor guidance note	Lecture notes	Time (mins.)
Identifies all the safety issues and actions of using a rope on the winch-warping drum.		Lecture, Demonstration/practical	T1	R3		A		15
During fishing operations hoists a part of the fishing gear.	Examines the rope condition for safe use.							10
Assesses the safety situation and applies rope turns on winch warping heads.	Ensures that the winch man is present at the winch controls.							20
	Before hoisting or applying loads hand tightens the rope by hand before taking rope turns on the warping head.	Practical						
	Applies two turns to take up slack rope then adds further one or two turns to heave.							
	The student should maintain smooth and controlled heaving and lowering of weight.							

SAMPLE LESSON PLAN 2**COURSE:****SAFETY OF FISHING OPERATIONS (Support Level)****Duration: 15 Minutes: Lecture****TRAINING AREA:****10. Basic Safety Awareness****30 Minutes: Demonstration/Practical**

Main element	Specific learning objective	Teaching method	Textbook	IMO ref.	AV aid	Instructor guidance note	Lecture notes	Time (mins.)
Identifies all the safety issues and actions of operating winch controls while heaving, lowering or stopping weights.		Lecture, Demonstration/practical	T1	R3		A		15
During fishing operations, hoists, lowers and stops a weighted part of the fishing gear.	Examines the appropriate areas for safe lifting or lowering of weight.							10
Assesses the safety situation and on instruction applies lifting/lowering power on winch.	Ensures that the winch rope man is ready at the winch-warping drum and awaits appropriate hand signals from deck officer (or instructor) in charge.							20
	Before applying winch loads student ensures the object weight and rope is unobstructed, before acting on the instruction to lift or lower.	Practical						
	The student should understand and respond to changes in forces acting on the winch and to maintain a smooth and controlled heaving, lowering and stopping of weight.							

SAMPLE LESSON PLAN 3

COURSE: SAFETY OF FISHING OPERATIONS (Support Level) Duration: 15 Minutes: Lecture

TRAINING AREA: 10. Basic Safety Awareness 30 Minutes: Demonstration/Practical

Main element	Specific learning objective	Teaching method	Textbook	IMO ref.	AV aid	Instructor guidance note	Lecture notes	Time (mins.)
Identifies all the safety issues and actions of signalling by hand or voice while heaving, lowering or stopping weights.		Lecture, Demonstration/ practical	T1	R3		A		1
Demonstrates hand signals to hoist, lower and stop a weighted part of the fishing gear.	Assessment of the appropriate areas for safe lifting, lowering or stopping of weight.							10
Assesses the safety situation and on instruction applies lifting/lowering and stop signals.	Ensures that the winch control and rope men are in position.							20
	Student ensures the object weight and rope is unencumbered, before demonstrating the hand signals to lift, lower or stop.	Practical						
	The student should demonstrate and respond to hand signals and maintain varied speed controlled heaving, lowering and stopping of weight.							

SAMPLE LESSON PLAN 4

COURSE:	SAFETY OF FISHING OPERATIONS (Support Level)				Duration: 15 Minutes: Lecture			
TRAINING AREA:	7. Maintenance of Fishing Gear				30 Minutes: Demonstration/Practical			
Main element	Specific learning objective	Teaching method	Textbook	IMO ref.	AV aid	Instructor guidance note	Lecture notes	Time (mins.)
Identifies all the fishing gear components and rope maintenance issues.		Lecture, Demonstration/practical	T1	R3		A		15
Examination of ropes and other fishing gear components.	Examines specific ropes or fishing gear components to establish condition for use.							5
Understand maintenance issues and any problem/s and course of action.	Student demonstrates why the ropes or components can be considered as being in good or poor condition.	Practical						10

GUIDANCE ON THE IMPLEMENTATION OF MODEL COURSES

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