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国际海事组织海员行为示范

MODEL
COURSE 1.20

防火与灭火

FIRE PREVENTION AND FIRE FIGHTING (2000)

中华人民共和国海事局 译



大连海事大学出版社
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Foreword

Since its inception the International Maritime Organization 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 administration, ports, shipping companies and maritime training institutes by establishing the World Maritime University in Malmö, Sweden, in 1983.

Following the earlier adoption of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, a number of IMO Member Governments had 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 effectiveness in meeting the requirements of the Convention and implementing the 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. IMO has therefore developed the current series of model courses in response to these generally identified needs and with the generous assistance of Norway.

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

W. A. O'NEIL

Secretary-General

前 言

国际海事组织(IMO)自成立伊始就认识到人力资源在海运业发展中的重要性,并最优先考虑通过在国家 and 地区层面上提供或改善培训设备来帮助发展中国家增强其海事培训能力。为应对发展中国家主管机关、港口、航运公司及海事培训机构中高层人员对研究生培训的需求,IMO 于 1983 年在瑞典的马尔默成立了世界海事大学。

在《1978 年海员培训、发证和值班标准国际公约》通过的初期,一些 IMO 成员国政府就建议 IMO 应制定示范培训课程,以帮助对该公约的实施以及对航海技术新发展方面信息和技能的迅速进行转化。IMO 培训顾问和咨询专家在对发展中国家的培训机构进行访问后确定,提供示范教程有助于教员改进现有课程的质量,提高其满足公约要求及实施相关会议和 IMO 大会决议的有效性。

此外,令人欣慰的是,海事培训诸多领域中一套综合性简短课程将对海事院校提供的授课加以补充,并使得已在海事行政机关、港口和航运公司工作的行政管理人员和技术专家可以提高其在某些专业领域中的知识和技能。为此,IMO 在挪威的慷慨帮助下编写了当前的系列示范课程,以应对那些普遍发现的需求。

任何培训机构都可以使用这些示范课程,在筹措到必需的资金时本组织也准备帮助发展中国家实施任何课程。

W.A.奥尼尔

秘书长

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1.20 MODEL COURSE

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 audiovisual or “programmed” material for the instructor’s presence. 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 analyzing 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.

介 绍

■ 示范课程的目的

IMO示范课程的目的是协助海事培训机构及其教学人员组织和引入新的培训课程,提高、更新或补充现有的培训材料,以此改进培训课程的质量和培训效果。

本示范课程计划的意图并不是向教员呈交一个他们期望“盲目遵循”的“教学包”,其意图也不是用视听或“编排的”材料来代替教员的存在。在所有的培训努力中,知识、技能和教员的奉献是向IMO示范课程材料的受训者传授知识和技能的关键构成要素。

由于不同国家接受航海类培训的学员所处的教育体系和文化背景各不相同,所以示范课程采用通用术语设计,可以适应各课程受训目标人群的基本要求,并明确提出了需要满足的IMO有关公约及相关决议案所必需的技能水平。

■ 示范课程的使用

为使用示范课程,教员应当审视课程计划和教学大纲细则,考虑课程框架中规定的入学标准所提供的信息。在审视过程中,应当牢记学员知识和技能的实际水准以及从前的技术教育水平,并应当识别出在教学大纲细则范围内由于学员实际入门水准与课程设计者假定的水准之间的差异,可能引起困难的任何部分。为弥补这些差异,希望教员将涉及学员已经掌握的知识和技能的项目从课程中删去或不做重视。此外,教员应当识别出学员可能还没有掌握的任何学术知识、技能或技术训练。

通过分析教学大纲细则以及技术领域培训所需的学术知识,教员可以设计出适当的预科课程,或者在技术课程中的适当处加入技术课程需要的学术知识。

如果完成该课程的学员在其所处的航海事业中要从事有别于本示范课程规定的课程目标的职责,则可能有必要调整课程的目标、范围和内容。

在课程计划中,课程设计者已经表明了其估计的、应分配给每一个学习部分的时间。但是,必须清楚的是,这些分配是主观的,并假设了学员完全符合本课程的入门要求。因此,教员应当对这些估计进行重新审视而且可能需要重新分配时间以符合每一个特定培训目标的需要。

■ 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 for the course. An example of a lesson plan is shown in the instructor manual on page 74. 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 tables of the STCW Code.

■ 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 1995 Convention

The standards of competence that have to be met by seafarers are defined in Part A of the STCW Code in the Standards of Training, Certification and Watchkeeping for Seafarers Convention, as amended in 1995. This IMO model course has been revised and updated to cover the competences in STCW 1995. It sets out the education and training to achieve those standards set out in Chapter VI Table A-VI/1-2.

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.

■ 教案

在为适应招收的学员以及课程目标的修正而调整课程内容之后，教员应当基于大纲细则拟定教案。大纲细则中有教科书具体的参考书目以及计划用于课程的教学资料。教员手册第75页上标有教案的范例。教案可以包括添加了关键词或提示语的大纲细则，以帮助教员授课，在这种情况下就没有必要调整大纲细则的培训目标。

■ 学员展示

必须以不同的方式反复讲授概念和方法，直到通过试验和评估学员的表现和成绩使教员感到满意；学员已经达到了每一个具体的培训目标或培训效果。教学大纲以培训目标的格式排列编排，而且每个目标规定了技能要求，或者学员必须能做的事情作为学习或培训的效果。从整体上看，这些目标的目的在于满足STCW规则相应表格规定的知识、理解和熟练。

■ 实施

为使课程顺利进行和卓有成效，必须充分注意下列资源的获得和使用：

- 完全合格的教员
- 辅助人员
- 教室或其他场所
- 设备
- 教科书、技术论文
- 其他参考资料

充分的准备是成功实施本课程的关键。IMO已经制定了“IMO示范课程实施指南”，它更加详尽地涉及了这一方面并作为本课程的一个附件包含在本课程中。

■ 培训和STCW 1995公约

船员必须达到的适任标准在《海员培训、发证和值班标准国际公约》(经1995年修正)的STCW规则的A部分中进行了规定。本IMO示范课程已经过修正和更新，覆盖了STCW 1995中的适任能力。它列出了达到STCW规则第VI章表A-VI/1-2中规定的标准所需的教育和培训。

A部分提供了附有目的、目标的课程框架，和对推荐的教学设施和设备的注释。另外它还包含了有用的教具、IMO参考书目和教科书的列表。

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 Code than that a strict timetable is followed. 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.

A separate IMO model course addresses Assessment of Competence. This course explains the use of various methods for demonstrating competence and criteria for evaluating competence as tabulated in the STCW Code.

Part C gives the Detailed Teaching Syllabus. This is based on the theoretical and practical knowledge specified in the STCW Code. 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.

The new training requirements for these competences are addressed in the appropriate parts of the detailed teaching syllabus.

Part D gives guidance notes and additional explanations.

The Convention defines the minimum standards to be maintained in Part A of the STCW Code. Mandatory provisions concerning Training and Assessment are given in Section A-I/6 of the STCW Code. These provisions cover: qualification of instructors; supervisors as assessors; in-service training; assessment of competence; and training and assessment within an institution. The corresponding Part B of the STCW Code contains non-mandatory guidance on training and assessment.

As previously mentioned a separate model course addresses Assessment of Competence and use of the criteria for evaluating competence tabulated in the STCW Code.

■ Responsibilities of Administrations

Administrations should ensure that training courses delivered by colleges and academies are such as to ensure officers completing training do meet the standards of competence required by STCW Regulation VI/1.

■ Validation

The information contained in this document has been validated by the Sub-Committee on Standards of Training and Watchkeeping for use by technical advisors, consultants and experts for the training and certification of seafarers 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. The Sub-Committee has not granted its authority to the documents, as it considers that this work must not be regarded as an official interpretation of the Convention.

In reaching a decision in this regard, the Sub-Committee was guided by the advice of a Validation Group comprised of representatives designated by ILO and IMO.

B部分提供了课程中讲课、演示和练习的概要。其中包含一个推荐的时间表,但从教和学的角度来看,学员达到STCW规则规定的最低标准的适任能力比严格遵守时间表更加重要。依据其经验和能力的不同,有些学生自然地要在其中一些主题上花费更长的时间才能变得熟练。另外,这部分中还含有指导性说明和附加解释。

一个独立的IMO示范课程专门处理适任能力的评估。该课程阐述了如何使用不同的方法演示STCW规则中列出的适任能力以及评价适任能力的标准。

C部分给出了基于STCW规则规定的理论和实践知识的教学大纲细则。它是按一系列的培训目标编写的,换言之,将期望学员所达到的能力作为教和学的效果。每一个目标被扩展开来去界定所要求的知识、理解和熟练。IMO参考书目、教科书的参考资料以及推荐的教具也包含在内,以便协助教师设计课堂教学。

针对这些适任能力的新的培训要求,教学大纲细则中的相应部分已经过处理。

D部分给出了指导备注和附加说明。

该公约在STCW规则A部分中规定了要保持在最低标准。有关培训和评估的强制性规定在STCW规则第A- I /6节中载明。这些规定包括:教员的资格;作为评估员的监督员;在职培训;适任能力评估;以及院校内的培训和评估。STCW规则中相应的B部分载有培训和评估的非强制性指南。

如前所述,一个独立的示范课程专门处理适任能力的评估并使用其标准评价STCW规则中列出的适任能力。

■ 行政管理职责

行政管理机关应当保证,由院校开设的课程要能保证满足STCW规则VI/1所要求的适任标准。

■ 有效性

本文件中载明的信息已被培训和值班标准分委员会确认为有效,可供技术顾问和专家用于船员的培训和发证,以便使所实施的最低标准可以尽可能地得到统一。在本文件中,有效性是指该分委员会还没有找到反对其内容的根据。该分委员会也没有将其权威授予本文件,因为该分委员会认为不应将本文件视为是对公约的官方解释。

在这方面达成共识时,由ILO和IMO指定的代表组成的有效性小组提出的建议对该分委员会给予了指导。

Part A: Course Framework

■ Aims

This model course aims to provide the training for candidates in fire prevention and fighting in accordance with Section A-VI/1 of the STCW Code.

■ Objective

This syllabus covers the requirements of the 1995 STCW Convention Chapter VI, Section A-VI/1, paragraph 2 and Table A-VI/1-2. On meeting the minimum standard of competence in fire prevention and fire fighting, a trainee will be competent to take appropriate measures for the safety of personnel and of the ship and to use fire appliances correctly. The trainee will also have a knowledge of fire prevention.

■ Entry standards

The course is open to all seafarers and prospective seafarers and should be completed prior to employment on a sea-going ship. All trainees must be certified by a doctor to be in good health.

■ 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 Table A-VI/1-2 of STCW 1995.

A certificate may be issued only by centres 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 available for conducting the training. Any practical training should be undertaken in small groups of not more than six trainees per instructor.

■ Staff requirements

The instructor shall have appropriate training in instructional techniques and training methods (STCW Code A-I/6, pa.7). In addition, all training and instruction should be given by qualified personnel; the senior instructor, having considerable experience in fire safety and fire-fighting techniques, should have a good knowledge of ships, including stability considerations. All assistant instructors should have practical knowledge of fire fighting and should be familiar with ships. During any practical training one instructor must be in charge of each group. Staff may be recruited from the local fire brigade.

■ Training facilities and equipment

Ordinary classroom facilities and an overhead projector are sufficient for the theoretical part of the course. When making use of audiovisual material such as videos or slides, make sure the appropriate equipment is available. In addition, a demonstration table measuring 3 m by 1 m would be advantageous. Separate rooms, equipped with a table and chairs, will also be needed to accommodate three or four groups of trainees during case studies and other group assignments.

A 部分:课程框架

■ 目的

本示范课程的目的是为培训学员在预防火灾和灭火方面提供STCW规则A-VI/1部分规定的专业培训。

■ 目标

本课程大纲已覆盖STCW 1995公约第VI章A-VI/1第2款和表A-VI/1-2的要求。受训者将在预防火灾与灭火方面达到以下最低适任标准:既有能力采取适当的措施保证个人人身和船舶安全,又能正确使用各类消防器材。学员同时还要掌握有关防火的基本知识。

■ 入学标准

本课程为所有海员和即将从事海员职业的人员而设置,所有人员在上船任职之前应完成本培训。参加培训的所有人员须体检合格。

■ 课程证书

培训后考试合格,签发培训证明,证明持证人满足STCW 1995公约表A-VI/1-2载明的适任标准。

培训合格证书须由主管机关或经主管机关认可的培训机构签发。

■ 课程人数限制

培训开班的规模视教员的数量、培训投入的设备和设施的数量而定,任何实操训练以小组方式进行,每小组人数不得超过六人,且每组应配备一名教员。

■ 教员要求

从事培训的教员应掌握适当的培训技能和培训方法(STCW规则A- I /6,第7页)。此外,培训教员还应具备相应的资格;主授教员应具有防火安全和消防技能方面丰富的工作经验,并具有良好的包括船舶稳性方面的船舶知识。所有的教员应具有消防的实际工作经验并熟悉船舶情况。在实操训练中,每一小组应有一名实操教员负责。教员可聘请当地消防人员。

■ 教学设施和设备

本课程理论教学可在配有顶置式投影仪的普通教室进行。如采用录像或幻灯片等视听材料教学,还应配备相应的设备。另外,配备一个3 m×1 m的演示台可有助于教学演示。应配备一个配有桌椅的可供3~4组学员进行案例分析与讨论的独立房间。