**IALA Model Course**

C0103-3

VTS On-The-Job Training

For review at VTS53

Edition #.#

Date…

Revisions to this IALA Document are to be noted in the table prior to the issue of a revised document.

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| Date | Page / Section Revised | Requirement for Revision |
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FOREWORD

The International Association of Marine Aids to Navigation and Lighthouse Authorities has been associated with Vessel Traffic Services since 1955 and recognises the importance of human resources to the development of efficient Vessel Traffic Services worldwide.

Taking into account the International Convention on Standards of Training, Certification and Watchkeeping of Seafarers, 1978, as amended in 1995 (STCW Convention), the Seafarer’s Training, Certification and Watchkeeping Code (STCW Code) and STCW 95 Resolution 10, IALA has adopted Recommendation V-103 on Standards of Training and Certification of VTS personnel.

The model training courses developed, or being developed, by IALA for VTS personnel are:

* Model Course V-103/1 - VTS Operator Training
* Model Course V-103/2 - VTS Supervisor Training
* Model Course V-103/3 - VTS On-the-Job Training
* Model Course V-103/4 - VTS On-the-Job Training Instructor
* Model Course V-103/5 – VTS Revalidation Process for VTS Qualification and Certification

These model courses are intended to provide national members and other appropriate authorities charged with the provision of vessel traffic services with specific guidance on the training of VTS Personnel. They may be used by maritime training organisations, and assistance in implementing any course may be obtained through IALA at the following address:

The Secretary-General

IALA Tel: (+) 33 1 34 51 70 01

10 rue des Gaudines, 78100 Fax: (+) 33 1 34 51 82 05

Saint Germain-en-Laye e-mail: [academy@iala-aism.org](mailto:academy@iala-aism.org)

France Internet: [www.iala-aism.org](http://www.iala-aism.org)

1. MODEL COURSE OVERVIEW

# Introduction

IALA Model Courses are training documents which define the level of training and knowledge needed to reach levels of competence defined by IALA.

**IMO Resolution A.1158 (32)** states that *“VTS personnel should only be considered competent when appropriately trained and qualified for their VTS duties.”* This includes, inter alia:

* satisfactorily completing generic VTS training approved by a competent authority; and
* being in possession of appropriate certification.

**IALA Recommendation 0103** **- Training and Certification of VTS personnel** specifies the practices associated with the training and certification of VTS personnel to assist authorities when recruiting, training and assessing VTS personnel to ensure the harmonized delivery of vessel traffic services world-wide.

**IALA Guideline 1156 - Recruitment, training and assessment of VTS personnel** states that *“Model courses provided by accredited training organisations should be approved by the competent authority.”*

**IALA Guideline 1014 -** **Accreditation of VTS training organizations and approval to deliver IALA VTS model courses** sets out the process by which a training organisation can be accredited to deliver approved VTS training courses.

# Purpose of the Model Course

The purpose of the model course is to assist VTS providers and their teaching staff in the preparation and introduction of new training courses for VTS Operators, or in enhancing, updating or supplementing existing training material.

This model course is designed to provide a consistent approach to the training of VTS Personnel in a specific operational VTS Environment, and complements the training delivered in model courses V-103/1 and V-103/2. VTS providers are encouraged to implement this model course in a manner consistent with their domestic legal framework .

It is not the intention of the model course to present instructors with a rigid ‘teaching package’. Rather, this model course provides the curriculum content for the training for VTS Operators.

# Course Objective

Upon successful completion of this course the student should have demonstrated the requisite knowledge, practical competence, skills, attitude and proficiency to perform day to day operations at a specific VTS centre. They should also have demonstrated to be able to undertake the duties associated with the provision of VTS at a specific VTS centre to:

* provide timely and relevant information on factors that may influence the transit of a ship and assist on-board decision making;
* monitor and manage traffic to ensure the safety and efficiency of ship movements; and
* respond to developing unsafe situations to assist the decision-making process on board.

Note – As described in A.1158(32) *“VTS personnel should only be considered competent when appropriately trained and qualified for their VTS duties. This includes:*

* *satisfactorily completing generic VTS training approved by the competent authority;*
* *satisfactorily completing on-the-job training at the VTS where the person is employed;*
* *undergoing performance assessment and revalidation training to ensure competence is maintained; and*
* *being in possession of appropriate certification.”*

# Course Curriculum Outline

The complete course comprises seven modules, each of which deals with a specific subject representing a requirement or function of a VTS Operator. Each module contains a subject framework stating its scope and aims, a subject outline, learning objectives and teaching points.

Training activities, simulated exercises and assessments undertaken during the course are intended to represent the role of the VTS Operator and reflect events or incidents that may be experienced at a VTS.

Each module identifies the total recommended number of hours that should be allotted. The recommended hours are indicative, and instructors should revise as required to address the requirements of the students to ensure the learning outcomes are achieved.

The recommended duration in hours does not include the time necessary for assessments and evaluations. Further, the instructor should allow time during the course for revision of course content.[table X refers]

| Module Title | Recommended Duration in Hours | | Overview |
| --- | --- | --- | --- |
| Presentations / Lectures | Exercises / Simulation |
| Communication |  |  | [copy text from the next section – which describes what the module is about] |
| Legal Framework |  |  |  |
| Provision of VTS |  |  |  |
| Local Knowledge |  |  |  |
| Equipment |  |  |  |
| Personal Attributes |  |  |  |
| Emergencies |  |  |  |

# Entry Requirements

Every student attending a C0103 model course should have achieved the International English Language Testing System (IELTS) level 5, or its equivalent.

It is the intention of the IALA model course program to have successfully completed VTS Operator Training as per Model Course C0103-1 prior to undertaking a C0103-3 course. The VTS provider may determine, and document, a C0103-1 certificate or any additional entry requirements.

In the event of a VTS Operator Training not being immediately available the VTS provider may conduct C0103-3 training in multiple stages, with some training prior to, and some after completing formal C0103-1 VTS operator training.

Consideration should be given to the recognition of prior learning and trainee background, which may reduce the time and content required to meet the desired competence level.

*IALA Guideline 1017 - Assessment for recognition of prior learning in VTS training* provides further guidance assessing and recognizing the prior learning of students.

# Course Intake - Limitations

The VTS provider should determine the number of students enrolled on the course based on the required number of new VTS personnel. However the size of the VTS centre, the number of OJT instructors and the risk of training fatigue should be taken into account upon determining the size of the group. There may be additional restraints for specific training methodologies:

* during live VTS operations under close supervision a one-on-one ratio is recommended;
* during classroom sessions the class/group size should allow the instructor(s) to give adequate individual attention to students as required to meet the learning objective(s).
* during practical sessions such as simulations, there may be additional restraints on class/group size. Where the use of a simulator or similar teaching aid is involved, it is recommended that no more than two students be trained simultaneously on any individual piece of equipment.”

# Training Staff Requirements

All instructors and assessors should be suitably experienced and appropriately qualified for the training being provided and the assessment required for the model course. On-the-Job Training Instructors should be trained in accordance with IALA C0103-4 On-the-Job Training Instructor model course.

As well as instructors and assessors, additional staff may be required for the maintenance of equipment and for the preparations of materials, work areas and supplies for the practical work.

*IALA Guideline 1156 - Recruitment, training, and certification of VTS Personnel* provides further guidance on the qualifications for instructors.

*IALA C0103-4 On-the-Job Training Instructor model course* provides a structure to ensure instructors have the knowledge, skill and proficiency to deliver VTS centre specific OJT, adaptation training and updating training.

# Facilities and Equipment

The teaching aids, facilities and equipment students will utilise during the course should be fit for purpose and of a sufficient standard to reflect the training methodologies used in the course delivery. Examples of training methodologies may include:

* live VTS operations
* simulation training
* classroom sessions
* group based learning activities
* remote learning (e.g. e-learning, online, distance, hybrid, blended)
* site visits

Simulator training should be managed in a manner consistent with IALA Guideline 1027 in order to provide sufficient behavioural realism to allow students to acquire the knowledge and skills appropriate to the training objectives.

The VTS provider should provide for safe learning environment consistent with any national health and safety requirements.

# Delivery of the Model Course

To make effective use of the model course, training staff should review the course outline, including the competence tables for each module, and prepare a detailed teaching syllabus. The instructor should take into consideration existing knowledge, skills and attitudes of students to support the assessment and recognition of prior learning. A gap analysis should be carried out to identify any differences between the level of skills and competencies of the student and those identified within the curriculum tables, and teaching strategies to address these gaps should be implemented.

This course is intended to cover the knowledge and practical competence required for an endorsement to be made in a VTS Certification Log that the holder has completed On-the-Job Training (OJT) at the VTS Centre at which they will be employed. The course is aimed at providing the OJT described in IALA G1156.

*IALA Guideline 1017 - Assessment for recognition of prior learning in VTS training* provides further guidance assessing and recognizing the prior learning of students.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* from revision to V-103/1 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

All training and assessment for VTS training should be:

1. Structured in accordance with written programmes, including such methods and means of delivery, procedures and course material as are necessary to achieve the prescribed standard of competence; and,
2. Conducted, monitored, assessed, and supported by qualified persons.

Teaching programmes should ensure that all listed elements are addressed in some manner, and that this is clearly documented.

If students are required to meet additional requirements, then the module objectives, scope and content for each subject may be adjusted to ensure the additional elements are covered. All changes to the training should be clearly documented.

The presentation of concepts and methodologies may be repeated as necessary in various ways until the instructor is satisfied that the student has attained a good working knowledge in each subject.

**Thorough preparation is key to successful implementation of the course.**

**\*\*\*\*\*\*\*\*\*\*\*\* from existing V-103/3 to compare and revise as required \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

All training and assessment of personnel for endorsement in their VTS Certification Log should be:

* structured in accordance with job performance, standard operating procedures and elements specific to the VTS centre concerned;
* presented in a realistic, job-centred atmosphere; and,
* conducted, monitored, evaluated and supported by persons qualified in accordance with the “Staff Requirements” set out in Course Framework.

To use the model course as a guide for the development of OJT programmes, instructors and operational personnel should review Course Outline, for VTS Operators and VTS Supervisors together with the specific services provided by the VTS centre.

From this review each centre should develop, document and instigate OJT policies and courses that ensure the competence of the trainees to perform all the duties required by a VTS Operator or VTS Supervisor, as appropriate, at the centre. VTS Authorities should also consider steps to maintain the standard of training delivered in the V-103/3 training through the development of a dedicated programme of continual professional development.

## Developing course content

The modular presentation enables the instructor to adjust the course content to suit the student intake and provide any revisions of the subject objectives as required. The instructor should develop lesson plans and detailed learning objectives based on the competence tables, references, and materials as suggested (see Part B).

It is not intended that the modules be presented in the order provided in this model course. It is expected that, to address effective training and learning methodologies, the content of modules will be grouped as appropriate for the learning environment. Presentation of the material should be tailored to reflect specific training objectives and include practical exercises, assessments, etc. When developing lesson plans, the instructor should use a teaching method or combination of methods that will ensure students can achieve the required learning objectives.

Depending on the student intake, the recommended hours may need to be adjusted as necessary. For example, it is normal for different students to require different lengths of time to cover the same content, and minor adjustments may be needed to the course timetable.

1. Competence Level Taxonomy for VTS Training

|  |  |  |  |
| --- | --- | --- | --- |
| Level | Knowledge and/or Attitude | Skill | Verbs (examples) |
| **Level 1**  Work of a routine and predictable nature generally requiring supervision | **Comprehension**  Understands facts and principles; interprets verbal/written material; interprets charts, graphs and illustrations; estimates future consequences implied in data; justifies methods and procedures | **Guided response**  The early stages in learning a complex skill and includes imitation by repeating a demonstrated action using a multi-response approach (trial and error method) to identify an appropriate response | Define, list, , locate, sketch, label, , follow (instructions), select, show willingness, operate, arrange, identify |
| **Level 2**  More demanding range of work involving greater individual responsibility. Some complex/non-routine activities | **Application**  Applies concepts and principles to new situations; applies laws and theories to practical situations; demonstrates correct usage of methods or procedures | **Autonomous response**  The learned responses have become habitual, and the movement is performed with confidence and proficiency | Describe recognise, perform, display, , proceed, comply, give examples |
| **Level 3**  Skilled work involving a broad range of work activities. Mostly complex and non-routine | **Analysis**  Recognises un-stated assumptions; recognises logical inconsistencies in reasoning; distinguishes between facts and inferences; evaluates the relevancy of data; analyses the organisational structure of work | **Complex observable response**  The skilful performance of acts that involve complex movement patterns. Proficiency is demonstrated by quick, smooth, accurate performance. The accomplishment of acts at this level includes a highly co-ordinated automatic performance | Analyse, apply, justify, differentiate, manipulate, categorise, classify, solve, operate, explain, paraphrase |
| **Level 4**  Work that is often complex, technical and professional with a substantial degree of personal responsibility and autonomy | **Synthesis**  Integrates learning from different areas into a plan for solving a problem; formulates a new scheme for classifying objects or events | **Adaptation**  Skills are so well developed that individuals can adapt rapidly to special requirements or problem situations | Evaluate, devise, assess, compare, adapt, respond to, demonstrate, plan, rearrange, organise, predict, interpret, resolve |
| **Level 5**  Complex techniques across wide and often unpredicted variety of contexts. Professional/senior managerial work | **Evaluation**  Judges the adequacy with which conclusions are supported by data; judges the value of a work by use of internal criteria; judges the value of a work by use of external standards of excellence | **Creation**  The creation of new practices or procedures to fit a particular situation or specific problem and emphasizes creativity based upon highly developed skills | Create, judge, evaluate, criticise, construct, compose, draw conclusion, synthesize, coordinate, formulate, improve, modify |

## Competence levels

To assist in the development of lesson plans, five levels of competence are used in the model courses for VTS personnel. Levels 1 to 4 are used in the model course for the training of VTS Operators and levels 3 to 5 are used in the model course for VTS Supervisor. Verb taxonomies have been provided with these levels to assist with the creation of detailed learning objectives. [table X refers]

*IALA Guideline 1103 – Train the trainer* assists instructors with the preparation and development of training courses and is aimed at courses delivered an accredited training organisation.

## Competence tables, teaching aids and references

Detailed competence tables are provided, including competence levels and proposed teaching aids and references. The training materials prepared (eg course notes, course presentations and reference documents etc) should be consistent with IALA standards and up-to-date taking into account recent changes and industry developments. These training materials should be available to the student for their reference.

Where remote learning delivery is proposed, training organizations should consider the necessary adjustments that may be required.

*IALA Guideline 1014 – Accreditation of VTS training organizations and approval to deliver IALA model courses* provides further detail on remote learning.

## Course review and updating

The course content should be reviewed on a regular basis to ensure it reflects the current IALA standards, recommendations, guidelines and takes into account recent changes and industry developments.

On conclusion of the course, a review should be undertaken based on course feedback and observations during course delivery to identify ongoing improvements and training materials that may need updating.

# Assessment

Student progress should be continually monitored and assessed, and regular reviews undertaken. Any problems that may arise should be addressed so that the student can attain the required levels of competence and has the opportunity to meet the course objectives.

Assessments should reflect the level of competence required, as provided in the competence tables for each module.

The training organisation should determine the assessment methods to be used to ensure competence levels have been attained for each subject of the module course. In addition, the training organisation should have procedures in place to address instances where the student is unable to attain the required competence.

Assessment results should be recorded and retained in accordance with national and/or organisational requirements as evidence to indicate the competence levels that have been attained for each subject of the model course.

# COURSE CertificatES

A course certificate should be issued by the training organisation where a student:

* demonstrates they have the theoretical and practical knowledge, and
* has passed the appropriate assessments to ensure the student has met the required competency as outlined in this model course.

# Acronyms

AIS Automatic Identification System(s)

APL Accredited Prior Learning

ARPA Automatic Radar Plotting Aid

CCTV Close circuit television

COLREGS International Regulations for Preventing Collisions at Sea

DF Direction Finding

DGNSS Differential Global Navigation Satellite System(s)

DR Dead reckoning

DSC Digital Selective Calling

ECDIS Electronic Chart Display and Information System(s)

ECS Electronic Chart System(s)

EP Estimated position

ETA Estimated Time of Arrival

GMDSS Global Maritime Distress and Safety System

GNSS Global Navigation Satellite System(s)

IALA International Association of Marine Aids to Navigation and Lighthouse Authorities - AISM

ICAO International Civil Aviation Organization

IELTS International English Language Test System

IMO International Maritime Organization

ISBN International Standard Book Number

ISPS International Ship and Port Facility Security (Code)

Lat Latitude

LBP Length between perpendiculars

LLTV Low light television

LOA Length overall

LOCODE United Nations Code for Trade and Transport Locations

Long Longitude

LNG Liquified Nitrogen Gas

LOP Line(s) of position

LPG Liquified Petroleum Gas

MAS Maritime Assistance Service

OJT On-the-Job Training

PTT Press To Talk

Racon Radar beacon(s)

Ramark Radar mark(s)

ROC Restricted Operator’s Certificate (GMDSS)

Ro-ro Roll on – roll off

RR Radio Regulations

SAR Search and Rescue

SMCP Standard Marine Communication Phrases (IMO)

STCW Standards of Training, Certification and Watchkeeping of Seafarers, 1978, as amended

VHF Very High Frequency (30 MHz to 300 MHz)

VDES VHF Data Exchange System

VTMIS Vessel Traffic Management Information System(s)

VTS Vessel Traffic Services

1. Communications

# [text as appropriate].SUBJECT FRAMEWORK

## Scope

This module covers the [text]

## Objective of Module 1

On completion of the module the student will [text]:

* [text]
* [text]

## Suggested Training aids and exercises

The teaching methods for that are suggested for use in the delivery of this module include:

* Live VTS Operations
* Classroom presentations and facilitated discussion
* Case studies
* Simulation [and recordings]

## References relevant to this module

The following references are relevant to the planning and delivery of this module:

* 1. SUBJECT OUTLINE OF MODULE 1

1. Subject outline – Communications

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **Recommended Competence Level** | **Recommended Hours1** | |
| **Presentations/ Lectures** | **Exercises/ Simulation** |
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* 1. DETAILED Competence table FOR MODULE 1 – Communications

1. Competence Table – Communications

| Element | *Session Objective* | Sub-element | Subject Elements | Level of Competence |
| --- | --- | --- | --- | --- |
| **1.1** | **General Communication Skills as per C0103-1** |  |  |  |
| **1.1.1** |  | 1.1.1.1 | Use of standard phraseology – G1132 - SMCP |  |
| 1.1.1.2 | Structure to compile a message and use of message markers |  |
| 1.1.1.3 | Techniques to deliver a message, covering areas such as:   * Tone and volume * Questioning techniques * Ambiguous terminology |  |
| 1.1.1.4 | Dealing with non-English speakers |  |
| 1.1.1.5 | Cultural differences |  |
| **1.1.2** |  | 1.1.2.1 |  |  |
| 1.1.2.2 |  |  |
| 1.1.2.3 |  |  |
| 1.1.2.4 |  |  |
| **1.1.3** |  | 1.1.3.1 |  |  |
| 1.1.3.2 |  |  |
| 1.1.3.3 |  |  |
| 1.1.3.4 |  |  |
| **1.1.4** |  | 1.1.4.1 |  |  |
| 1.1.4.2 |  |  |
| 1.1.4.3 |  |  |
|  |  |  |
| **1.2** | **VTS Communication Phrases** |  |  |  |
| **1.2.1** | Construct VTS messages using standard phraseology | 1.2.1.1 | Message structure |  |
| 1.2.1.2 | Use of message markers |  |
| 1.2.1.3 | Use of standard VTS phraseology consistent with IALA G1132 |  |
| 1.2.1.4 | Use of the SMCP |  |
| 1.2.1.5 | Use of standard phrases to trigger predictable actions |  |
| 1.2.1.6 | Identifying options for alternative wording to clarify understanding |  |
| **1.2.2** |  | 1.2.2.1 |  |  |
| 1.2.2.2 |  |  |
| 1.2.2.3 |  |  |
| 1.2.2.4 |  |  |
| 1.2.2.5 |  |  |
| 1.2.2.6 |  |  |
| **1.3** | **Voice Communication Systems and Procedures** |  |  |  |
| **1.3.1** | *Demonstrate the use of the voice communication systems at the VTS centre including VHF base stations and their working channels in the VTS area* | 1.3.1.1 | VHF base stations in the VTS area including their geographical location, limitations and coverage |  |
|  |  | 1.3.1.2 | VHF channels and management of multiple channels |  |
|  |  | 1.3.1.3 | Key components/functions of the voice communications system |  |
|  |  | 1.3.1.4 | Use of telephone system |  |
|  |  | 1.3.1.5 | Replay (and recording/retrieve) of voice recordings |  |
|  |  |  |  |  |
| **1.3.2** | Demonstrate communication procedures | 1.3.2.1 | VHF working channels |  |
|  |  | 1.3.2.2 | Reporting arrangements in the VTS area |  |
|  |  | 1.3.2.3 | Communication with participating ships and allied services |  |
|  |  | 1.3.2.4 | Communication with local traffic |  |
|  |  | 1.3.2.5 | Handover with adjacent VTSs |  |
|  |  | 1.3.2.6 | [Safety and advisory broadcasts  Routine and non routine broadcasts] (e.g. Distress, Pan Pan or urgency messages) |  |
|  |  | 1.3.2.7 |  |  |
|  |  | 1.3.2.8 |  |  |
|  |  | 1.3.2.9 | Other communication procedures (e.g. radar assistance communication, search and rescue communication) |  |
| **1.4** | **Use of other communication technologies** |  |  |  |
| **1.4.1** |  | 1.4.1.1 | Use of telephone system, AIS, DSC, email  Other emerging communication technologies |  |
| **1.5** | ***Dealing with enquiries from members of the stakeholders*** |  |  |  |
| **1.5.1** |  | 1.5.1.1 |  |  |
| **1.6** | **Dealing with enquires from the media or members of the public** |  | Refer to public relations officer in case of media contact |  |
| **1.6.1** |  | 1.6.1.1 |  |  |
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1. Legal Framework

# [text as appropriate].SUBJECT FRAMEWORK

## Scope

This module covers the [text]

## Objective of Module 1

On completion of the module the student will [text]:

* [text]
* [text]

## Suggested Training aids and exercises

The teaching methods for that are suggested for use in the delivery of this module include:

* Classroom presentations and facilitated discussion
* Case studies
* Simulation [and recordings]

## References relevant to this module

The following references are relevant to the planning and delivery of this module:

* 1. SUBJECT OUTLINE OF MODULE 2

1. Subject outline – Legal Framework

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **Recommended Competence Level** | **Recommended Hours1** | |
| **Presentations/ Lectures** | **Exercises/ Simulation** |
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* 1. DETAILED Competence table FOR MODULE 2 – Legal Framework

1. Competence Table – Legal Framework

| Element | *Session Objective* | Sub-element | Subject Elements | Level of Competence |
| --- | --- | --- | --- | --- |
| **2.1** | **Regulatory Framework** |  |  |  |
| **2.1.1** | Describe the VTS legislative framework and the role of IALA Standards | 2.1.1.1 | SOLAS V/12 |  |
| 2.1.1.2 | IMO Resolution A.1158(32) |  |
| 2.1.1.3 | National regulations related to VTS and to SAR (and to Pilotage) |  |
| 2.1.1.4 | Local regulations |  |
| 2.1.1.5 | IALA Standards, Recommendations and Guidelines |  |
|  |  | 2.1.1.6 | UNCLOS, IMDG |  |
| **2.2** | **Roles and Responsibilities** |  |  |  |
| **2.2.1** | *Identify the role of the Competent Authority and VTS provider* | 2.2.1.1 | Role of Competent Authority |  |
| 2.2.1.2 | Role of the VTS provider |  |
| **2.2.2** | Explain the responsibilities of VTS personnel | 2.2.2.1 | Role and responsibility of VTS personnel in the provision of VTS |  |
|  |  |  | ? Roles and responsibilities of VTS, master and pilot |  |
| **2.5** | **Enforcement of legislation/VTS procedures** |  |  |  |
| **2.5.1** | *Explain the compliance and enforcement framework with respect to violations of VTS regulatory requirements* |  | Compliance and enforcement in the VTS area including:   * Provision of guidance/warnings * Reporting arrangements * Escalation procedures |  |
| **2.4** | **Log and Record Keeping** |  |  |  |
| **2.4.1** | *Explain the requirements for log keeping and recording in VTS* |  | Methods of log keeping and the retention of logs |  |
|  | Processes to report incidents, casualty and near miss including:   * collection of data, * dissemination of data, |  |

1. Provision of VTS

# [text as appropriate].SUBJECT FRAMEWORK

## Scope

This module covers the [text]

## Objective of Module 1

On completion of the module the student will [text]:

* [text]
* [text]

## Suggested Training aids and exercises

The teaching methods for that are suggested for use in the delivery of this module include:

* Classroom presentations and facilitated discussion
* Case studies
* Simulation [and recordings]

## References relevant to this module

The following references are relevant to the planning and delivery of this module:

* 1. SUBJECT OUTLINE OF MODULE 3

1. Subject outline – Provision of VTS

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| **Element** | **Recommended Competence Level** | **Recommended Hours1** | |
| **Presentations/ Lectures** | **Exercises/ Simulation** |
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* 1. DETAILED Competence table FOR MODULE 3 – Provision of VTS

1. Competence Table – Provision of VTS

| Element | *Session Objective* | Sub-element | Subject Elements | Level of Competence |
| --- | --- | --- | --- | --- |
| **3.1** | ***VTS Operational Procedures*** |  |  |  |
| **1.1.1** | *Identify the difference between Internal, External, Routine and Emergency procedures* | 1.1.1.1 | Introduction to Operational Procedures:   * Internal routine * Internal emergency * External routine * External emergency |  |
| 1.1.1.2 | Document control and updates |  |
| **1.2** | **Daily Routines** |  |  |  |
| **1.2.1** | *Explain what daily routines are required and where the routines are detailed* | 1.2.1.1 | ? Routine tasks:   * System checks |  |
|  |  | 1.2.1.2 | ? Shift handovers |  |
| **1.2.2** |  | 1.2.2.1 |  |  |
| 1.2.2.2 |  |  |
| 1.2.2.3 |  |  |
| 1.2.2.4 |  |  |
| 1.2.2.5 |  |  |
| 1.2.2.6 |  |  |

1. Local Knowledge

# [text as appropriate].SUBJECT FRAMEWORK

## Scope

This module covers the [text]

## Objective of Module 1

On completion of the module the student will [text]:

* [text]
* [text]

## Suggested Training aids and exercises

Conduct port familarisation of the VTS area ….. [expand with examples etc}

The teaching methods for that are suggested for use in the delivery of this module include:

* Classroom presentations and facilitated discussion
* Case studies
* Simulation [and recordings]

## References relevant to this module

The following references are relevant to the planning and delivery of this module:

* 1. SUBJECT OUTLINE OF MODULE 4

1. Subject outline – Local Knowledge

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| --- | --- | --- | --- |
| **Element** | **Recommended Competence Level** | **Recommended Hours1** | |
| **Presentations/ Lectures** | **Exercises/ Simulation** |
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* 1. DETAILED Competence table FOR MODULE 4 – Local Knowledge

1. Competence Table – Local Knowledge

| Element | *Session Objective* | Sub-element | Subject Elements | Level of Competence |
| --- | --- | --- | --- | --- |
| **4.1** | ***VTS Environment*** |  |  |  |
| **4.1.1** | *Identify the key characteristics of the VTS area* |  | Area limits, boundaries, separation zones, shipping lanes and channels |  |
|  |  | Prohibited or dangerous areas, anchorages and restricted areas |  |
|  |  | Aids to Navigation |  |
|  |  | Geography, hydrogaphic and environmental aspects |  |
| **3.1.2** | *Identify measures to manage traffic in the VTS area.* | 3.1.2.1 | Shipping routeing measures and separation criteria |  |
|  | 3.1.2.2 | Constraints (geographic, operational requirement, priorities, vessel types and characteristics, etc) |  |
|  | *Identify the traffic composition in the VTS area* |  | Types of vessels expected |  |
|  |  | Movements of dangerous goods |  |
|  |  | Typical ship movement characteristics/conditions |  |
|  |  | Typical cargoes handles and their characteristics/conditions |  |
|  |  | Special vessel movements |  |
|  |  |  |  |  |
| **4.1.2** |  | 4.1.2.1 |  |  |
| 4.1.2.2 |  |  |
| 4.1.1.1 | Attributes of the VTS area, such as:   * Max drafts * Max beam max LOA * Depths * Max air drafts required (region specific) * Pilot boarding grounds * VHF channels * Berths and geographical locations. * Stevedores |  |
| **4.2** | ***Port Navigation*** |  |  |  |
| **4.1.1** | *Understand and explain the navigational channels in the VTS area* | 4.1.1.1 | [text] |  |
| 4.1.1.2 |  |  |
| 4.1.1.3 |  |  |
| 4.1.1.4 |  |  |
| **4.1.2** | *Demonstrate a knowledge of the AtoNs in each of the VTS Areas* | 4.1.2.1 |  |  |
| 4.1.2.2 |  |  |
|  |  |  |
|  | *Explain and identify the nautical publications that AtoNs and navigational information is contained for the VTS* |  |  |  |
|  | *Explain the navigational restrictions on vessel movements in each of the VTS Areas* |  |  |  |
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| **4.4** | **Meteorological and Hydrological Conditions** |  |  |  |
| **4.4.1** | *Effect of meteorological conditions of VTS area* |  |  |  |
|  | *Effect of hydrological conditions of VTS area* |  |  |  |
|  | *Meteorological Services* |  |  |  |
| **4.5** | **Allied Services** |  | Allied Services |  |
| **4.5.1** |  |  | *Port and Harbour Services + Port Risk Assessment + Port Security Procedure* |  |
| **4.5.2** | *Pilotage Services* |  |  |  |
| **4.5.3** | *Custom and Immigration Services* |  |  |  |
| **4.6** | **Familiarisation** |  |  |  |
| **4.6.1** | *Allied services/adjacent VTS centres* |  |  |  |
| **4.6.2** | *Trips afloat on a variety of vessels/craft* |  |  |  |

1. Equipment

# [text as appropriate].SUBJECT FRAMEWORK

## Scope

This module covers the [text]

## Objective of Module 1

On completion of the module the student will [text]:

* [text]
* [text]

## Suggested Training aids and exercises

The teaching methods for that are suggested for use in the delivery of this module include:

* Classroom presentations and facilitated discussion
* Case studies
* Simulation [and recordings]

## References relevant to this module

The following references are relevant to the planning and delivery of this module:

* 1. SUBJECT OUTLINE OF MODULE 5

1. Subject outline – Equipment

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **Recommended Competence Level** | **Recommended Hours1** | |
| **Presentations/ Lectures** | **Exercises/ Simulation** |
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* 1. DETAILED Competence table FOR MODULE 5 – Equipment

1. Competence Table – Equipment

| Element | *Session Objective* | Sub-element | Subject Elements | Level of Competence |
| --- | --- | --- | --- | --- |
| **5.1** | **General** |  |  |  |
| **5.1.1** | *System architecture* | 1.1.1.1 | [text] |  |
| 1.1.1.2 |  |  |
| 1.1.1.3 |  |  |
| 1.1.1.4 |  |  |
| **1.1.2** | *Fault identification and reporting/correcting equipment faults* | 1.1.2.1 |  |  |
| 1.1.2.2 |  |  |
| 1.1.2.3 |  |  |
| 1.1.2.4 |  |  |
| **1.1.3** | *Back-up systems* | 1.1.3.1 |  |  |
| 1.1.3.2 |  |  |
| 1.1.3.3 |  |  |
| 1.1.3.4 |  |  |
| **1.1.4** | *Business Continuity Planning* | 1.1.4.1 |  |  |
| 1.1.4.2 |  |  |
| 1.1.4.3 |  |  |
|  |  |  |
| **5.2** | **Radar** |  |  |  |
| **5.2.1** | *Traffic image display equipment* | 1.2.1.1 |  |  |
| **5.3** | **AIS** | 1.2.1.2 |  |  |
| **5.3.1** | *[text]* | 1.2.2.1 |  |  |
| 1.2.2.2 |  |  |
| 1.2.2.3 |  |  |
| 1.2.2.4 |  |  |
| 1.2.2.5 |  |  |
| 1.2.2.6 |  |  |
| **5.4** | **Communications Equipment** |  |  |  |
| **5.4.1** | *[text]* |  |  |  |
| **5.4.2** | *VHF* |  |  |  |
| **5.5** | **Meteorological** |  |  |  |
| **5.5.1** | *[text]* |  |  |  |
| **5.6** | **VTS Database Equipment** |  |  |  |
| **5.6.1** | *[text]* |  |  |  |
| **5.6.2** | *Data protection* |  |  |  |
| **5.6.3** | *Interpretation of VTS data* |  |  |  |
| **5.6.4** | *Importance of the maintenance of VTS records* |  |  |  |
| **5.6.5** | *Dissemination of VTS records/data* |  |  |  |
| **5.6.6** | *Data protection* |  |  |  |
| **5.7** | **Decision Support Tools** |  |  |  |
| **5.7.1** | *[text]* |  |  |  |

1. Personal Attributes

# [text as appropriate].SUBJECT FRAMEWORK

## Scope

This module covers the [text]

## Objective of Module 1

On completion of the module the student will [text]:

* [text]
* [text]

## Suggested Training aids and exercises

The teaching methods for that are suggested for use in the delivery of this module include:

* Classroom presentations and facilitated discussion
* Case studies
* Simulation [and recordings]

## References relevant to this module

The following references are relevant to the planning and delivery of this module:

* 1. SUBJECT OUTLINE OF MODULE 6

1. Subject outline – Personal Attributes

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| --- | --- | --- | --- |
| **Element** | **Recommended Competence Level** | **Recommended Hours1** | |
| **Presentations/ Lectures** | **Exercises/ Simulation** |
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* 1. DETAILED Competence table FOR MODULE 6 – Personal Attributes

1. Competence Table – Personal Attributes

| Element | *Session Objective* | Sub-element | Subject Elements | Level of Competence |
| --- | --- | --- | --- | --- |
| **1.1** | **[text]** |  |  |  |
| **1.1.1** | *[text]* | 1.1.1.1 | [text] |  |
| 1.1.1.2 |  |  |
| 1.1.1.3 |  |  |
| 1.1.1.4 |  |  |
| **1.1.2** |  | 1.1.2.1 |  |  |
| 1.1.2.2 |  |  |
| 1.1.2.3 |  |  |
| 1.1.2.4 |  |  |
| **1.1.3** |  | 1.1.3.1 |  |  |
| 1.1.3.2 |  |  |
| 1.1.3.3 |  |  |
| 1.1.3.4 |  |  |
| **1.1.4** |  | 1.1.4.1 |  |  |
| 1.1.4.2 |  |  |
| 1.1.4.3 |  |  |
|  |  |  |
| **1.2** | **[text]** |  |  |  |
| **1.2.1** | *[text]* | 1.2.1.1 |  |  |
|  |  | 1.2.1.2 |  |  |
| **1.2.2** |  | 1.2.2.1 |  |  |
| 1.2.2.2 |  |  |
| 1.2.2.3 |  |  |
| 1.2.2.4 |  |  |
| 1.2.2.5 |  |  |
| 1.2.2.6 |  |  |

1. Emergencies

# [text as appropriate].SUBJECT FRAMEWORK

## Scope

This module covers the [text]

## Objective of Module 1

On completion of the module the student will [text]:

* [text]
* [text]

## Suggested Training aids and exercises

The teaching methods for that are suggested for use in the delivery of this module include:

* Classroom presentations and facilitated discussion
* Case studies
* Simulation [and recordings]

## References relevant to this module

The following references are relevant to the planning and delivery of this module:

* 1. SUBJECT OUTLINE OF MODULE 7

1. Subject outline – Emergencies

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| **Element** | **Recommended Competence Level** | **Recommended Hours1** | |
| **Presentations/ Lectures** | **Exercises/ Simulation** |
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* 1. DETAILED Competence table FOR MODULE 7 – Emergencies

1. Competence Table – Emergencies

| Element | *Session Objective* | Sub-element | Subject Elements | Level of Competence |
| --- | --- | --- | --- | --- |
| **1.1** | **[text]** |  |  |  |
| **1.1.1** | *[text]* | 1.1.1.1 | [text] |  |
| 1.1.1.2 |  |  |
| 1.1.1.3 |  |  |
| 1.1.1.4 |  |  |
| **1.1.2** |  | 1.1.2.1 |  |  |
| 1.1.2.2 |  |  |
| 1.1.2.3 |  |  |
| 1.1.2.4 |  |  |
| **1.1.3** |  | 1.1.3.1 |  |  |
| 1.1.3.2 |  |  |
| 1.1.3.3 |  |  |
| 1.1.3.4 |  |  |
| **1.1.4** |  | 1.1.4.1 |  |  |
| 1.1.4.2 |  |  |
| 1.1.4.3 |  |  |
|  |  |  |
| **1.2** | **[text]** |  |  |  |
| **1.2.1** | *[text]* | 1.2.1.1 |  |  |
|  |  | 1.2.1.2 |  |  |
| **1.2.2** |  | 1.2.2.1 |  |  |
| 1.2.2.2 |  |  |
| 1.2.2.3 |  |  |
| 1.2.2.4 |  |  |
| 1.2.2.5 |  |  |
| 1.2.2.6 |  |  |