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| IALA Model Course |

C0103-4

VTS On-The-Job Training Instructor DRAFT

Edition 3.0 DRAFT Option 1 (Based on module structure agreed at VTS54)

[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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1. COURSE OVERVIEW

# Introduction

IALA Model Courses have been developed to provide guidance on the level of training and knowledge needed to reach levels of competence defined by IALA. They provide IALA national members and other appropriate authorities with guidance on the training of VTS Personnel.

IALA’s contribution to the development of internationally harmonized guidance for vessel traffic services is recognized in IMO Resolution A.1158(32) Guidelines for Vessel Traffic Services and the Annex to the resolution states:

* Contracting Governments are encouraged to take into account IALA standards and associated recommendations, guidelines and model courses (Section 9.2)
* 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.*
* *satisfactorily completing on-the-job training at the VTS where the personnel are employed.*
* *undergoing periodic assessments and revalidation training to ensure competence is maintained; and*
* *being in possession of appropriate certification*

IALA recommendations, guidelines and model courses specifically related to the establishment and operation of VTS include:

* **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.
* **Guideline 1156 - Recruitment, training, and certification of VTS personnel** states that “Model courses provided by accredited training organizations should be approved by the competent authority.”
* **Guideline 1014 -** **Accreditation of VTS training organizations and approval to deliver IALA VTS model courses** sets out the process by which a training organization can be accredited to deliver approved VTS training courses.
* IALA model courses including:
* Model Course C0103-1 VTS Operator Training
* Model Course C0103-2 VTS Supervisor Training
* Model Course C0103-3 VTS On-the-Job Training
* Model Course C0103-4 VTS On-the-Job Training Instructor
* Model Course C0103-5 VTS Revalidation Process for VTS Qualification and Certification

# PURPOSE OF THE MODEL COURSE

The purpose of the model course is to assist training organizations and their teaching staff in the preparation and provision of new training courses for VTS On-the-Job (OJT) Training Instructors, or in enhancing, updating, or supplementing existing training material. It provides guidance on the level of training and knowledge needed to reach levels of competence defined by IALA to be certified as a VTS OJT Training Instructor.

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 of VTS OJT Training Instructors. It is intended to be used by accredited training organizations in preparing their C0103-4 training programs.

# Course Objective

To successfully complete this course the student will demonstrate the requisite knowledge, skills and attitude to undertake the duties associated with the role of a VTS OJT Instructor.

This includes developing their practical skills to provide the OJT training program at the VTS centre:

* Designing training programmes including task books and assessment materials
* Learning teaching and instructional techniques to deliver training programmes
* Providing feedback to learners
* Assessing the required competence of a student against the training objectives
* Evaluating the effectiveness and continually improving training programmes

# Course Curriculum Outline

The model course comprises 6 modules, each of which deals with a specific subject representing a requirement or function of a VTS OJT Instructor. Each module contains a subject framework stating its scope and aims, a subject outline, learning objectives, teaching points and recommended hours.

The recommended hours are indicative and based on the assumption that the students have no or little previous knowledge of the subject. Instructors should revise as required to address the requirements of the students to ensure the learning outcomes are achieved based on the competence levels detailed in each module (Table 1 refers). Time for assessments is in addition to the range of duration included in the model course.

Training activities, simulated exercises and assessments undertaken during the course are intended to represent the role of the VTS OJT Training Instructor and reflect scenarios or events that may be experienced in the development and implementation of VTS training programmes. No timetable is included in this model course. Working within the normal practices of the training establishment, instructors should allow time during the course for revision of course content and develop their own timetable depending on the:

* level of skills of students;
* number of persons to be trained;
* number of instructors; and
* simulator facilities and equipment available.

1. Summary of C0103-4 Training

| Module Title | Recommended Duration in Hours | | Overview |
| --- | --- | --- | --- |
| Presentations / Lectures | Exercises / Simulation |
| 1. Educational Theory | *[2 to 4 hrs]* | *[1 to 2 hrs]* | This module covers the principles of adult educational theory, including learning strategies and teaching techniques for VTS OJT. |
| 1. Approaches to Training | *[3 to 5 hrs]* | *[2 to 4 hrs]* | This module covers the development and design of a training program including the use of experiential learning in VTS OJT. |
| 1. Learning and Teaching Styles | *[3 to 5 hrs]* | *[2 to 4 hrs]* | This module covers learning and teaching styles, instructional techniques and adapting teaching styles for different learners. |
| 1. Instructional Skills | *[4 to 5 hrs]* | *[4 to 5 hrs]* | This module covers instructional skills suitable for VTS OJT, including practical application of presenting material and providing feedback to learners. |
| 1. Assessment and Evaluation | *[4 to 5 hrs]* | *[1 to 2 hrs]* | This module covers the role and process for assessment and evaluation of VTS OJT. |
| 1. VTS OJT Program | *[2 to 3 hrs]* | *[2 to 4hrs]* | This module covers the development of a VTS OJT program to reflect C0103-3. |
| Total time range | [18 to 27] | [12 to 21] | *Note: Maximum hours are based on the assumption that the students have no or little previous knowledge of the subject.* |

# Entry Requirements

Every student attending a C0103-4 model course should have in-depth knowledge of the processes and procedures relating to VTS operations.

The training organization or competent authority may determine, and document, any additional course entry requirements.

# Recognition of Prior Learning

It is recognized that some students may have experience, knowledge, skills, attitudes, and competencies acquired through formal or informal learning in some modules or subject elements associated with the VTS model course. In such cases, consideration should also be given to the recognition of prior learning (RPL), which may reduce the time requirement to meet the level required for certification.

*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 training organization should determine the number of students enrolled on the course and provide information on the student to staff ratio. The class/group size should allow the instructor(s) to give adequate individual attention to students as required to meet the learning objective(s).

In general, it is recommended that 8-10 students is the maximum that a single instructor can be expected to train satisfactorily to the level of competence involved. Larger numbers may be admitted depending on the method of delivery.

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 appropriately qualified for the training being provided and the assessment required for the model course.

As well as instructors and assessors, additional staff may be required for the maintenance of equipment, for the preparation of materials and training areas as well as support for simulation and other practical activities.

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

# 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:

* classroom sessions, presentations and facilitated discussion
* group based learning activities
* case studies and recordings
* remote learning (e.g. e-learning, online, distance, hybrid, blended)
* simulation training.

Simulation training, if provided, 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 training organization 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.

All 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 the required competence in each subject.

Thorough preparation is key to successful implementation of the course.

## 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.

## Competence levels

To assist in the development of lesson plans, five levels of competence are used in the model courses for VTS personnel. Learning objectives are provided within the model course. Verb taxonomies have been provided to assist with the creation of detailed learning objectives (Table 2 refers).

## Competence tables, teaching aids and references

Detailed competence tables are provided, including competence levels and proposed teaching aids and references. The training materials prepared (e.g. 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.

## Training course references

Course development and delivery should take into consideration the following references. Where required, additional references are identified in specific modules.

* IMO model course 6.09 – Training course for instructors
* IMO model course 6.10 – Train the simulator trainer and assessor
* IALA S1040 Vessel Traffic Services
* IALA S1050 Training and Certification
* IALA R0103 (V-103) Training and Certification of VTS Personnel
* IALA G1132 VTS Voice Communications and Phraseology
* IALA G1141 Operational Procedures for Delivering VTS
* IALA G1156 Recruitment, Training and Certification of VTS Personnel
* IALA Model Courses on VTS:
  + C0103-3 (VTS On-the-job Training (OJT))
  + C0103-2 (VTS Supervisor Training)
  + C0103-5 (VTS Recurrent, Refresher and Adaptation Training)

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 | Arrange, define, list, locate, label, identify, select |
| 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 | Comply (with), describe, display, give examples, recognise, operate, perform (an action), participate in |
| 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 organizational 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, categorise, classify, compare, differentiate, explain, justify, operate, solve |
| 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 | Adapt, coach, construct (build), demonstrate, devise, interpret, intervene, organize, plan, predict, resolve, respond to, support (as in teamwork), use |
| 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 | Construct, compose, coordinate, create, criticise, draw conclusion, evaluate, formulate, improve, judge, modify, synthesize |

## 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 consider 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 organization 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 organization 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 organizational 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 organization 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 and Abbreviations

ADDIE Analayse, Design, Develop, Implement and Evaluate (training program)

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

IMO International Maritime Organization

ISD Instructional System Design (training program)

OJT On-the-Job Training

RPL Recognition of Prior Learning

SMART Specific, Measurable, Achievable, Realistic (Relevant) and Time-Bound (training objectives)

VACSR Valid, Authentic, Current, Sufficient, Reliable (training assessments)

VTS Vessel Traffic Services

2. Modules
3. Educational Theory
   1. SUBJECT FRAMEWORK
      1. Scope

This module covers the principles of adult educational theory, including learning strategies and teaching techniques for local OJT training at the VTS centre

* + 1. Objective of Module 1

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

* explain how adults learn
* explain how the IALA competence levels are implemented in VTS OJT
* identify suitable training methodologies to support learning
* demonstrate instructions techniques in VTS OJT
  + 1. Additional references relevant to this module

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

* [The ITG did not identify any additional references]
  1. SUBJECT OUTLINE OF MODULE 1

1. Subject outline – Educational Theory

|  |  |  |  |
| --- | --- | --- | --- |
| Element | Recommended Competence Level | Recommended Hours | |
| Presentations and Lectures | Exercises and Simulations |
| **Adult learning** |  | **[0.5 to 1 hrs]** | **[0 to 0.5hrs]** |
| Qualities of the adult learner | 2 |  |  |
| Adult learner theories | 3 |  |  |
| Adult learner strategies for VTS OJT | 3 |  |  |
| **Training Taxonomies** |  | **[0.5 to 1 hrs]** | **[0 hrs]** |
| Cognitive, psychomotor and affective | 2 |  |  |
| IALA competence levels | 2 |  |  |
| **Teaching techniques** |  | **[1 to 2 hrs]** | **[1 to 1.5 hrs]** |
| Techniques suitable for VTS OJT | 1 |  |  |
| Scenarios / case studies | 2 |  |  |
| Instructional Techniques | 4 |  |  |
|  | *Total time range* | *[2 to 4 hrs]* | *[1 to 2 hrs]* |

* + 1. DETAILED Competence table FOR MODULE 1 – Educational Theory

1. Competence Table – Educational Theory

| Element | Session Objective | Sub-element | Subject Elements | Level of Competence |
| --- | --- | --- | --- | --- |
| **1.1** | **Adult learning** |  |  |  |
| 1.1.1 | *Describe the qualities of the adult learner.* | 1.1.1.1 | Cycles of learning | 2 |
| 1.1.1.2 | Principles of adult learning:   * Self-directed * Practical; Goal oriented; immediacy/relevancy * Life experiences; need to feel respected * Resistant to change * Motivation; Desire to learn * Responsibilities; time limitations * Expectations | 2 |
| 1.1.2 | *Describe different learning theories.* | 1.1.2.1 | Andragogy and Pedagogy | 2 |
| 1.1.2.2 | Adult learning theories such as:   * Behaviourist learning theory * Cognitive learning theory * Experiential Learning Theory |  |
| 1.1.3 | *Explain adult learning strategies for VTS OJT.* | 1.1.3.1 | Learning pyramid | 3 |
| 1.1.3.2 | Reasonable adjustments | 3 |
| 1.1.3.3 | Connecting known to unknown | 3 |
| 1.1.3.4 | Inductive and deductive learning | 3 |
| **1.2** | **Training taxonomies** |  |  |  |
| 1.2.1 | *Describe the different training taxonomies.* | 1.2.1.1 | Three taxonomies:   * Cognitive (knowledge) * Psychomotor (skills) * Affective (attitude) | 2 |
| 1.2.2 | *Describe the IALA competence levels.* | 1.2.2.1 | 5 competence levels   * Level 1 – Comprehension / Guided response * Level 2 – Application / Autonomous response * Level 3 – Analysis / Complex observable response * Level 4 – Synthesis / Adaptation * Level 5 – Evaluation / Creations |  |
| 1.2.3 | *Explain the IALA competence levels in a VTS OJT program.* | 1.2.3.1 | Competence tables in C0103-3 (VTS OJT) | 3 |
| 1.2.3.2 | Role of IALA competence levels in designing VTS OJT. | 3 |
| **1.3** | **Teaching Techniques** |  |  |  |
| 1.3.1 | *Describe techniques suitable for VTS OJT* | 1.3.1.1 | Active vs Passive | 2 |
| 1.3.1.2 | Techniques such as:   * OJT Task books * Job shadowing * Presentations * Familiarization activities such as site visits to allied services, shipboard voyages in the VTS area, equipment site * Games to support learning * Coaching * Role-playing * Case studies * Simulation | 2 |
| 1.3.2 | *Describe scenarios and case studies* | 1.3.2.1 | Elements of a case study / learning scenario:   * relevant topic / report * learning objective * case study materials (report, summary, activity sheet, simulation) * Implementation * outcomes | 2 |
| 1.3.2.2 | Factors to support learning   * Complexity * Perspectives (multiple viewpoints) * Considerations (ethical, legal, operational) * Documentation and analysis * Opportunity for continuous improvement | 2 |
| 1.3.3 | *Develop a case study* | 1.3.3.1 | Case study to reflect all elements and factors to support learning | 4 |
| 1.3.4 | *Demonstrate instructional techniques in VTS OJT* | 1.3.4.1 | Practice training sessions:   * One-on-one (coaching style) * Small group presentation | 4 |

1. Approaches to Training
   1. SUBJECT FRAMEWORK
      1. Scope

This module covers the development and design of a training program including the use of experiential learning to provide local OJT training at the VTS centre.

* + 1. Objective of Module 2

On completion of the module the student will:

* Describe how to design of training programs
* Adapt learning to include experiential and discovery learning activities
* construct learning objectives for a VTS OJT program
  + 1. Additional references relevant to this module

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

* [The ITG did not identify any additional references]
  1. SUBJECT OUTLINE OF MODULE 2

1. Subject outline – Approaches to Training

|  |  |  |  |
| --- | --- | --- | --- |
| Element | Recommended Competence Level | Recommended Hours | |
| Presentations and Lectures | Exercises and Simulations |
| **Training Program Design** |  | **[0.5 to 1hrs]** | **[0.5 to 1 hrs]** |
| Training program design methodologies | 2 |  |  |
| VTS OJT Program Design | 3 |  |  |
| **Experiential Learning** |  | **[1 to 1.5 hrs]** | **[1 to 2 hrs]** |
| Experiential / Discovery learning theories | 3 |  |  |
| Experiential learning and VTS OJT | 4 |  |  |
| **Learning Objectives** |  | **[1.5 to 2.5 hrs]** | **[0.5 to 1 hrs]** |
| Elements of objectives | 1 |  |  |
| Developing objectives | 5 |  |  |
|  | *Total time range* | *[3 to 5 hrs]* | *[2 to 4 hrs]* |

* + 1. DETAILED Competence table FOR MODULE 2 – Approaches to Training

1. Competence Table – Approaches to Training

| Element | Session Objective | Sub-element | Subject Elements | Level of Competence |
| --- | --- | --- | --- | --- |
| **2.1** | **Training Program Design** |  |  |  |
| 2.1.1 | *Describe approaches to training program design.* | 2.1.1.1 | Instruction System Design (ISD) / ADDIE (Analyse, Design, Develop Implement, Evaluate) | 2 |
| 2.1.1.2 | Dimensions of competence:   * Task skills * Task / management skills * Contingency management skills * Job/role environment skills * Transfer of skills | 2 |
| 2.1.1.3 | Difference between a curriculum (combination of topics) and a syllabus (portions of topic in a particular subject) | 2 |
|  |  | 2.1.1.4 | Elements of a teaching syllabus:   * Objectives * Teaching methodology * Assessment and Evaluation methodology * Lesson plan / course content * Exercises / activities | 2 |
| **2.2** | **Experiential Learning** |  |  |  |
| 2.2.1 | *Explain experiential / discovery learning.* | 2.2.1.1 | Experiential learning (Kolb) | 3 |
| 2.2.1.2 | Discovery learning (Piaget) | 3 |
| 2.2.2 | *Adapt experiential / discovery learning to VTS OJT.* | 2.2.2.1 | Design activities based on experiential learning | 4 |
| 2.2.2.2 | Brief / debrief of experiential learning activities | 4 |
| 2.2.2.3 | Link experiential learning to case studies / scenarios / simulation | 4 |
| **2.3** | **Learning Objectives** |  |  |  |
| 2.3.1 | *Identify the elements of a learning objective.* | 2.3.1.1 | Hierarchy of objectives:   * Program objective * Terminal objective * Enabling objective * Teaching points | 1 |
| 2.3.1.2 | Elements of objectives:   * Performance * Condition * Standard | 1 |
| 2.3.1.3 | “SMART” objectives (specific, measurable, achievable, relevant, time-bound) | 1 |
| 2.3.2 | *Construct learning objectives for a VTS OJT program.* | 2.3.2.1 | Using IALA competence / action verbs | 4 |
| 2.3.2.2 | Confirming all element of objective included (performance, condition, standard) | 4 |
| 2.3.2.3 | Confirming objective is ‘SMART’ | 4 |

1. Learning and Teaching Styles
   1. SUBJECT FRAMEWORK
      1. Scope

This module covers the learning and teaching styles, instructional techniques and adapting teaching styles for different learners.

* + 1. Objective of Module 3

On completion of the module the student will:

* explain the goals of learning
* describe the impact of preferred learning styles and barriers that may affect learning
* adapt teaching styles for different learners
  + 1. Additional references relevant to this module

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

* [The ITG did not identify any additional references]
  1. SUBJECT OUTLINE OF MODULE 3

1. Subject outline – Learning and Teaching Styles

|  |  |  |  |
| --- | --- | --- | --- |
| Element | Recommended Competence Level | Recommended Hours | |
| Presentations and Lectures | Exercises and Simulations |
| **Learning environment** |  | **[1.5 to 2 hrs]** | **[0.5 to 1 hrs]** |
| Safe learning environment | 3 |  |  |
| Learning environment to support adult learners | 2 |  |  |
| Goals of learning | 3 |  |  |
| **Learning styles** |  | **[0.5 to 1 hrs]** | **[0.5 to 1 hrs]** |
| Barriers to learning | 2 |  |  |
| Individual Learning styles | 1 |  |  |
| Teaching styles | 3 |  |  |
| **Instructional Techniques** |  | **[1 to 2 hrs]** | **[1 to 2hrs]** |
| Techniques to support learning | 1 |  |  |
| Learning styles and instructional techniques | 4 |  |  |
| Teaching styles for different learners | 1 |  |  |
|  | *Total time range* | *[3 to 5 hrs]* | *[2 to 4 hrs]* |

* + 1. DETAILED Competence table FOR MODULE 3 – Learning and Teaching Styles

1. Competence Table – Learning and Teaching Styles

| Element | Session Objective | Sub-element | Subject Elements | Level of Competence |
| --- | --- | --- | --- | --- |
| **3.1** | **Learning Environment** |  |  |  |
| 3.1.1 | *Explain what makes a safe learning environment.* | 3.1.1.1 | Maslow’s Hierarchy of needs | 3 |
| 3.1.1.2 | Psychologically safe environments | 3 |
| 3.1.1.3 | Physically safe environments | 3 |
| 3.1.1.4 | Adapting within an operational environment | 3 |
| 3.1.2 | *Describe learning environments that can be expected within a VTS OJT* | 3.1.2.1 | Limitations and challenges | 2 |
| 3.1.2.2 | Opportunities | 2 |
| 3.1.2.3 | Physical, virtual and hybrid environments | 2 |
| 3.1.2.4 | How to prepare the learning environment:   * Physical space (VTS centre, breakout rooms, offsite) * Online space * Environmental conditions (temperature, light, sound levels) | 2 |
| 3.1.3 | *Explain the goals of learning* | 3.1.3.1 | Change in knowledge, skills and attitude | 3 |
| 3.1.3.2 | Intentional, Incidental and Accidental learning | 3 |
| **3.2** | **Learning Styles** |  |  |  |
| 3.2.1 | *Describe options to recognise and overcome barriers to learning.* | 3.2.1.1 | Student barriers to learning   * Perception * Attention * Memory * Motivation | 2 |
| 3.2.1.2 | Instructor barriers to learning   * Biases * Expectations of the instructor from the learning group (pygmalian effect) * Communication skills | 2 |
| 3.2.1.3 | Strategies to address barriers to learning | 2 |
| 3.2.2 | *Identify preferred individual learning styles.* | 3.2.2.1 | Visual, Auditory, Kinaesthetic learners | 1 |
| 3.2.2.2 | Social and Solitary learners | 1 |
| 3.2.2.3 | Logical and Intuitive learners | 1 |
| 3.2.2.4 | Reflector, Activist, Pragmatist, Theorist | 1 |
| 3.2.3 | *Explain the impact of learning styles on teaching styles.* | 3.2.3.1 | Biases and preferences | 3 |
| 3.2.3.2 | Adapting teaching style to learners | 3 |
| **3.3** | **Instructional Techniques** |  |  |  |
| 3.3.1 | *Identify different instructional techniques.* | 3.3.1.1 | Lecture, presentation | 1 |
| 3.3.1.2 | Familiarization activities such as site visits to allied services, shipboard voyages in the VTS area, equipment site, simulation, trial and error, Role play | 1 |
| 3.3.1.3 | Brainstorming, Case Study | 1 |
| 3.3.1.4 | Remote learning (e-learning, distance, hybrid, blended) | 1 |
| 3.3.2 | *Adapt teaching styles for different learners.* | 3.3.2.1 | Link learning styles with instructional techniques | 4 |
| 3.3.2.2 | Options to adapt teaching styles for different learners | 4 |

1. Instructional Skills
   1. SUBJECT FRAMEWORK
      1. Scope

This module covers the instructional skills suitable for VTS OJT, including practical application of preparing OJT training programmes, presenting material, and providing feedback to learners.

* + 1. Objective of Module 4

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

* describe the qualities of how to be an effective instructor
* give constructive feedback and conduct debriefings
* develop skills to prepare the outline of a VTS OJT programme including lesson plans, simulation exercises
* present a VTS OJT learning session
  + 1. Additional references relevant to this module

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

* [The ITG did not identify any additional references]
  1. SUBJECT OUTLINE OF MODULE 4

1. Subject outline – Instructional Skills

|  |  |  |  |
| --- | --- | --- | --- |
| Element | Recommended Competence Level | Recommended Hours | |
| Presentations and Lectures | Exercises and Simulations |
| **Effective Instructors** |  | **[2 to 2.5 hrs]** | **[1.5 to 2 hrs]** |
| Qualities of effective instructors | 2 |  |  |
| Coaching and Mentoring | 3 |  |  |
| Feedback to learners | 4 |  |  |
| **Presenting and Teaching** |  | **[2 to 2.5 hrs]** | **[2.5 to 3 hrs]** |
| Developing a learning session | 4 |  |  |
| Presenting a learning session | 4 |  |  |
| Simulation in VTS OJT | 3 |  |  |
| Supporting trainees in VTS | 2 |  |  |
|  | *Total time range* | *[4 to 5 hrs]* | *[4 to 5 hrs]* |

* + 1. DETAILED Competence table FOR MODULE 4 – Instructional Skills

1. Competence Table – Instructional Skills

| Element | Session Objective | Sub-element | Subject Elements | Level of Competence |
| --- | --- | --- | --- | --- |
| **4.1** | **Learning Environment** |  |  |  |
| 4.1.1 | *Describe the qualities of an effective instructor* | 4.1.1.1 | Technical Competence - knowledge of / qualification for content being presented. | 2 |
| 4.1.1.2 | Instructional competence   * Knowledge of educational theory * Prepare training sessions * Adapting to address learner needs while meeting objectives * Assessment techniques * Coaching * Managing dynamics / productive and disruptive behaviours * Communication skills – active listening, questioning techniques | 2 |
| 4.1.1.3 | Human Factors (coordination, interactions)   * Professional * Passionate * Patient * Supportive * Empathetic | 2 |
|  |  | 4.1.1.4 | Four level of competence and relationship to training   * Unconscious competence * Conscious competence * Conscious incompetence * Unconscious incompetence | 2 |
| 4.1.2 | *Explain the difference between coaching and mentoring.* | 4.1.2.1 | Instructor and facilitator | 3 |
| 4.1.2.2 | Coaching and mentoring | 3 |
| 4.1.2.3 | Group vs individual teaching | 3 |
| 4.1.2.4 | Use of coaching and mentoring in VTS OJT | 3 |
| 4.1.3 | *Demonstrate the provision of feedback to learners.* | 4.1.3.1 | Purpose and Timing | 4 |
| 4.1.3.2 | Constructive feedback | 4 |
| 4.1.3.3 | Debriefing technique | 4 |
| **4.2** | **Presenting and Teaching** |  |  |  |
| 4.2.1 | *Plan a VTS OJT learning session.* | 4.2.1.1 | Plan a lesson   * Learning objectives * Training approach / Match training to session objective * Assessment and evaluation * Training aids / reference material * Timing / time limit | 4 |
| 4.2.1.2 | Develop a lesson plan | 4 |
| 4.2.1.3 | Prepare for One-on-one presentation | 4 |
| 4.2.1.4 | Prepare for Group presentation (min of 2 trainees) | 4 |
| 4.2.2 | *Demonstrate a VTS OJT learning session.* | 4.2.2.1 | Use identified methodology | 4 |
| 4.2.2.2 | One-on-one environment | 4 |
| 4.2.2.3 | Group presentation (min of 2 trainees) | 4 |
| 4.2.3 | *Explain the use of simulation in VTS OJT* | 4.2.3.1 | Training activities such as:   * Interaction for seldom seen scenario * Element of case study | 3 |
| 4.2.3.2 | Assessment activities such as:   * Assess on seldom seen scenarios * Confirming competence | 3 |
| 4.2.4 | *Describe options to support the trainee in VTS OJT* | 4.2.4.1 | Instructor/trainee relationship | 2 |
| 4.2.4.2 | Operational instructor (instructor/trainee to colleagues) | 2 |

1. Assessment and Evaluation
   1. SUBJECT FRAMEWORK
      1. Scope

This module covers the processes to assess learning outcomes and the evaluation of local OJT training at the VTS centre.

* + 1. Objective of Module 5

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

* identify the methods and tools used to conduct competency-based assessments
* create an OJT task book
* describe approaches to evaluation
* explain the importance of maintaining and analysing training records
  + 1. Additional references relevant to this module

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

* [The ITG did not identify any additional references]
  1. SUBJECT OUTLINE OF MODULE 5

1. Subject outline – Assessment and Evaluation

|  |  |  |  |
| --- | --- | --- | --- |
| Element | Recommended Competence Level | Recommended Hours | |
| Presentations and Lectures | Exercises and Simulations |
| **Methods of assessment** |  | **[2t o 2.5 hrs]** | **[0.5 to 1 hrs]** |
| Purpose of assessment | 3 |  |  |
| Qualities of a good assessment | 1 |  |  |
| Methods of assessing | 1 |  |  |
| Tools for assessing | 1 |  |  |
| OJT task books | 4 |  |  |
| **Evaluation** |  | **[2 to 2.5 hrs]** | **[0.5 to 1 hrs]** |
| Levels of evaluation | 3 |  |  |
| Training records / tracking progress | 4 |  |  |
| Course review and evaluation | 2 |  |  |
|  | *Total time range* | *[4 to 5 hrs]* | *[1 to 2 hrs]* |

* + 1. DETAILED Competence table FOR MODULE 5 – Assessment and Evaluation

1. Competence Table – Assessment and Evaluation

| Element | Session Objective | Sub-element | Subject Elements | Level of Competence |
| --- | --- | --- | --- | --- |
| **5.1** | **Methods of Assessment** |  |  |  |
| 5.1.1 | *Explain the purpose of evaluation in training.* | 5.1.1.1 | Purpose of competency-based assessment:   * Assessing knowledge, skills, attitudes * Continuous improvement * Confirming competence against objectives (competence levels) | 3 |
| 5.1.1.2 | Clarification versus evaluation | 3 |
| 5.1.1.3 | Roles and responsibilities of assessors | 3 |
| 5.1.1.4 | Situations where competence unable to be attained / unsatisfactory assessment outcome | 3 |
| 5.1.2 | *List the qualities of a good assessment.* | 5.1.2.1 | VACSR model   * Valid, * Authentic, * Current, * Sufficient, * Reliable | 1 |
| 5.1.2.2 | Assessment plan:   * Details of assessment tools * Captures evidence against objective (competence level) * Reviewed and verified * Used for continuous improvement * Process to achieve consistency between assessors | 1 |
| 5.1.3 | *Identify methods for assessing learning.* | 5.1.3.1 | Methods such as:   * Formative / Summative * Written assessments * Oral assessments * Direct / indirect observation * Supplementary evidence | 1 |
| 5.1.4 | *Identify tools for assessing learning.* | 5.1.4.1 | Tools such as:   * Tests/quizzes * Assignments * Rubrics and checklists * Demonstration and observation * Task books * Portfolios (record of learning) | 1 |
| 5.1.5 | *Create a section of an OJT Task Book.* | 5.1.5.1 | Learning objectives for task book | 4 |
| 5.1.5.2 | Tasks to include in task book | 4 |
| 5.1.5.3 | Presentation / layout of task book | 4 |
| **5.2** | **Course Evaluation** |  |  |  |
| 5.2.1 | *Describe the levels of training evaluation.* | 5.2.1.1 | Kirkpatrick’s four levels:   * Level 1 - Reaction * Level 2 - Learning * Level 3 - Transfer (behaviour) * Level 4 - Results (impact) | 2 |
| 5.2.1.2 | Instructional design addressing levels 1 and 2 | 2 |
| 5.2.1.3 | Promoting organisational assessment for levels 3 and 4 | 2 |
| 5.2.3 | *Describe how to carry out a course review and evaluation.* | 5.2.3.1 | Analysis of results for individual course | 2 |
| 5.2.3.2 | Satisfaction surveys | 2 |
| 5.2.3.3 | Trend analysis (over multiple courses) | 2 |
| 5.2.3.4 | Course maintenance – maintaining relevancy of materials and records | 2 |
| **5.3** | **Training Records** |  |  |  |
| 5.3.1 | *Explain the role of records of training to tracking progress of learners.* | 5.3.1.1 | Importance of training records | 3 |
| 5.3.1.2 | Types of training records | 3 |
| 5.3.1.3 | Use of training records for analysis and improvement | 3 |
| 5.3.1.4 | Organisational requirements for training records (ISO / Training Management System) | 3 |
| 5.1.3.5 | Authorising access / protection of records | 3 |

1. VTS OJT Training Program
   1. SUBJECT FRAMEWORK
      1. Scope

This module covers the use of instructional skills within a VTS OJT Programme.

* + 1. Objective of Module 6

On completion of the module the student will:

* Explain the expectations and outcomes of VTS OJT
* Prepare or adapt a VTS OJT program outline
  + 1. Additional references relevant to this module

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

* [The ITG did not identify any additional references]
  1. SUBJECT OUTLINE OF MODULE 6

1. Subject outline – VTS OJT Program

|  |  |  |  |
| --- | --- | --- | --- |
| Element | Recommended Competence Level | Recommended Hours | |
| Presentations and Lectures | Exercises and Simulations |
| **OJT Training in VTS Training** |  | **[1 to 1.5 hrs]** | **[1 to 1.5hrs]** |
| The role of OJT in VTS Training | 2 |  |  |
| Objectives of OJT | 1 |  |  |
| Expectations and outcomes of OJT | 3 |  |  |
| **OJT Program** |  | **[1 to 1.5 hrs]** | **[1 to 2.5 hrs]** |
| Consideration to develop/deliver OJT | 3 |  |  |
| Providing OJT | 4 |  |  |
|  | *Total time range* | *[2 to 3 hrs]* | *[2 to 4 hrs]* |

* + 1. DETAILED Competence table FOR MODULE 4 – Instructional Skills

1. Competence Table – Instructional Skills

| Element | Session Objective | Sub-element | Subject Elements | Level of Competence |
| --- | --- | --- | --- | --- |
| **6.1** | **OJT Training in VTS** |  |  |  |
| 6.1.1 | *Describe the role of OJT in VTS Training* | 6.1.1.1 | OJTI | 2 |
| 6.1.1.2 | VTS Personnel to support training | 2 |
| 6.1.2 | *Identify the objectives of VTS OJT* | 6.1.2.1 | C0103-1 | 1 |
| 6.1.2.2 | C0103-2 | 1 |
| 6.1.2.3 | C0103-3 | 1 |
| 6.1.2.4 | C0103-5 | 1 |
| 6.1.3 | *Explain expectations and outcomes of OJT* | 6.1.3.1 | Realistic expectations / competencies required | 3 |
| 6.1.3.2 | Achievable results | 3 |
| **6.2** | **OJT Programme** |  |  |  |
| 6.2.1 | *Explain considerations for developing and delivering OJT* | 6.2.1.1 | Trainee prior knowledge and experience | 3 |
| 6.2.1.2 | Integration of C0103-1 / C0103-2 with C0103-3 | 3 |
| 6.2.1.3 | Availability / considerations for:   * Time – course preparation / course delivery * Facilities * Safety and security * Personnel | 3 |
| 6.2.2 | *Prepare a VTS OJT Program outline* | 6.2.2.1 | Create a VTS training program outline by either:   * preparing a new programme or * revising an existing programme | 4 |
| 6.2.2.2 | Adjust to address considerations for developing and delivering OJT | 4 |