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| IALA Model Course |

C2001-1

AIDS TO NAVIGATION - Technician Training

Introduction to Marine Aids to Navigation

Edition 1.1

June 2021

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 |
| October 2012 | 1st issue |  |
| June 2021 | Entire document | Review of content |
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FOREWORD

The International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) recognises that training in all aspects of Aids to Navigation (AtoN) service delivery, from inception through installation and maintenance to replacement or removal at the end of a planned life-cycle, is critical to the consistent provision of that AtoN service.

Taking into account that under the SOLAS Convention, Chapter V, Regulation 13, paragraph 2; Contracting Governments undertake to take into account the international recommendations and guidelines when establishing aids to navigation, including referring to the appropriate recommendations and guidelines of IALA. This includes recommendations on the training and qualification of AtoN technicians and, consequently, IALA has adopted Recommendation R0141 on Standards for Training and Certification of AtoN personnel.

IALA committees working closely with the IALA World-Wide Academy have developed a series of model courses for AtoN personnel having technician responsibilities. This Model Course on an Introduction to Aids to Navigation should be read in conjunction with the Training Overview Document IALA WWA C2000 which contains standard guidance for the conduct of all Level 2 model courses

This Model Course is intended to provide national members and other appropriate authorities charged with the provision of AtoN services with specific guidance on the training of AtoN technicians in an introduction to aids to navigation. Assistance in implementing this and other model courses may be obtained from the IALA World-Wide Academy at the following address:

The Dean

IALA World-Wide Academy Tel: (+) 33 1 34 51 70 01

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78100 Saint Germain-en-Laye e-mail: [academy@iala-aism.org](mailto:academy@iala-aism.org)

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1. COURSE OVERVIEW

# SCOPE

This course is intended to provide technicians with the theoretical training necessary to have a satisfactory understanding of the types and function of marks and the lights and other aids to navigation (AtoN) that can be fitted to them.

This introductory course is intended to be supported by further training modules on fixed and floating aids, practical aspects of buoy handling, moorings, deployment and maintenance. Details of these supporting model courses can be found in the Level 2 Technician training overview document IALA WWA C2000.

# OBJECTIVE

Upon successful completion of this course, participants will have acquired sufficient knowledge and skill to recognise the types and functions of AtoN that they may encounter in the course of their duties within their organizations.

# COURSE OUTLINE

This theoretical course is intended to cover the knowledge required for a technician to recognise and understand all types of marks detailed in the IALA Maritime Buoyage System (MBS). The complete course comprises two classroom based modules, each of which deals with a specific subject covering aspects of IALA and its publications, focussing on the IALA MBS.

The required standard of competence is considered to be the level of proficiency that should be achieved for the proper performance of the duties carried out by the technician in their organization.

This Model Course is focussed at the basic and satisfactory levels of competence.

1. Levels of Competence

| Competence Level | Learning Outcome | Instructional Objectives | Required skills |
| --- | --- | --- | --- |
| 1 | The conduct of routine tasks with some supervision | A **basic** understanding of facts and principles | First stage in acquiring competency of a complex skill. Appropriate responses are identified through trial and error |
| 2 | The conduct of routine tasks unsupervised and some more complex tasks under guidance | A **satisfactory** understanding of theoretical concepts and principles so that they can be applied in practice | Correctly acquired responses have become habitual. Actions can be performed confidently and efficiently |

# TEACHING MODULES

1. Table of Teaching Modules

|  |  |  |
| --- | --- | --- |
| Module Title | Time in hours | Overview |
| IALA and the NAVGUIDE | 1.5 | This module describes the basic functions and types of AtoN; the role of IALA its relevance to SOLAS and introduces its AtoN manual the NAVGUIDE |
| The IALA Maritime Buoyage System | 2.0 | This module describes the background and purpose of the IALA MBS and the type and function of marks detailed therein |
| Assessment | 1 | Written test |
| **Total Hours:** | **4.5** | One day course |

# SPECIFIC COURSE RELATED TEACHING AIDS

This course will be classroom based. Classrooms should be equipped with appropriate teaching aids to enable presentation of the subject matter.

Examples of AtoN that are used in the region should be made available in the classroom. This may include models, photographs or a visit to an AtoN facility if feasible.

# ACRONYMS

To assist in the use of this model course, the following acronyms have been used:

AtoN Aid(s) to Navigation

IALA International Association of Marine Aids to Navigation and Lighthouse Authorities

MBS IALA Maritime Buoyage System

SOLAS International Convention for the Safety of Life at Sea, 1974 (as amended)

# DEFINITIONS

The definition of terms used in this Model Course can be found in the International Dictionary of Marine Aids to Navigation (IALA Dictionary) at <http://www.iala-aism.org/wiki/dictionary>

# REFERENCES

The following reference material is relevant to this course:

1. IALA NAVGUIDE.
2. IALA Recommendation R1001 on the IALA Maritime Buoyage System.
3. TEACHING MODULES

# MODULE 1 – IALA and the NAVGUIDE

## Scope

This module describes the basic functions and types of AtoN; the role of IALA and its relevance to SOLAS and introduces its AtoN manual the NAVGUIDE.

## Learning Objective

To gain a basic understanding of the function and types of AtoN and the role IALA plays in international standardisation.

## Syllabus

### Lesson 1 – Function and Types of AtoN

1. for AtoN provision Regulation 13
2. The definition of an AtoN.
3. Functions of AtoN and their use by mariners in navigation.
4. Types of AtoN contained within the IALA MBS.

### Lesson 2 – IALA

1. IALA role and structure of IALA.
2. The purpose, structure and scope of standards, rg
3. The NAVGUIDE.

# MODULE 2 – The IALA Maritime Buoyage System

## Scope

This module describes the background and purpose of the IALA MBS and the type and function of floating and other AtoN detailed therein.

## Learning Objective

To gain a satisfactory understanding of the background and principles of the IALA MBS; its rules; and descriptions of marks.

## Syllabus

### Lesson 1 – Historical Background and Principles

1. Historical background.
2. General principles, definition of a mark, types of mark and their function.
3. Rules of the MBS for each mark including colour, shape, top mark and light.
4. Buoyage regions A and B.
5. Marking new dangers.

### Lesson 2 - Other Marks

1. Leading lines/ranges.
2. Sector lights.
3. Lighthouses and beacons.
4. Major floating aids.
5. Auxiliary marks.