PUBLICLY AVAILABLE SPECIFICATION

ISO/PAS 24438

First edition
2020-10

Ships and marine technology — Maritime education and training — Maritime career guidance

Navires et technologie maritime — Éducation et formation maritime — Recommandations pour l'orientation dans les métiers de la mer

Reference number
ISO/PAS 24438:2020(E)

© ISO 2020



COPYRIGHT PROTECTED DOCUMENT

© ISO 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Basic concept of maritime career guidance **1**
4.1 General 1
4.2 Major fields of employment in the international maritime industry 1
4.3 Non-traditional field career paths in the maritime industry 2
4.3.1 General 2
4.3.2 Emerging technologies in support of operations 2
4.3.3 "Hawse pipe" progression 2
4.3.4 Application of computer technologies in all aspects of the maritime industry 2
4.3.5 Military to maritime industry 3
4.4 Personal career course charting 3
4.5 Areas of potential employment in the maritime industry 3
5 Information on selected occupations in the maritime industry **5**
5.1 Shipboard employment and marine transportation 5
5.2 Ports and logistics 6
5.3 Marine environmental protection 7
5.4 Marine engineering 8
5.5 Maritime law and arbitration 9
5.6 Maritime security 12
5.7 Marine insurance 13
5.8 Maritime energy management 13
5.9 Marine technology 14
5.10 Marine simulation 15
5.11 Maritime education and training 16
Bibliography **17**

© ISO 2020 – All rights reserved

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology.*

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

© ISO 2020 – All rights reserved

Introduction

The International Maritime Organization (IMO) has identified a strong need to recruit and retain seafarers globally. This document has been developed to help recruit new maritime professionals and to assist them, as well as existing maritime professionals, to enter and build their career path for their professional achievement within the international maritime industry. Additionally, it aims to provide professional alternatives and information pertaining to existing maritime industry stakeholders who are faced with career path decisions due to industry evolution, personal circumstances or changes in professional goals in order to adapt to these changes.

The rationale of having a functional career guidance document is to provide a reference for possible occupations in the maritime industry, including minimum education and training requirements for a given occupation so that candidates can take the necessary steps to meet their goals.

© ISO 2020 – All rights reserved

Ships and marine technology — Maritime education and training — Maritime career guidance

1 Scope

This document provides a powerful decision-making tool for persons that either have clear professional development goals or have uncertainties related to the progression of their career paths, including minimum education and training requirements for a given occupation so that candidates can take the necessary steps to meet their goals. This document seeks to assist professionals in (or those who would like to enter) the maritime sector, on board or ashore, in determining what they would like to achieve professionally, establishing how to get there through this proactive tool, taking into consideration

— personal circumstances and academic background,

— previous work experiences, knowledge and skills,

— short, medium and long-term ambitions,

— changing education and training requirements resulting from continual industry evolution,

— current and future job opportunities,

— impact of technology, and

— shifting personal interests, attitudes, abilities and goals.

This document helps identify potential jobs within the maritime industry, on board and ashore, in order to provide alternative career paths.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Basic concept of maritime career guidance

4.1 General

The basic concept of this document is shown in Figures 1 to 3, which provide the general categories of careers available in the maritime industry.

4.2 Major fields of employment in the international maritime industry

Figure 1 provides a diagram of the major fields of employment in the international maritime industry described in this document.

© ISO 2020 – All rights reserved