

# End-point assessment plan for Marine Surveyor apprenticeship standard

Apprenticeship standard number	Apprenticeship standard level	Integrated
ST0772	6	No

## Contents

Introduction and overview .....	2
EPA summary table .....	3
Length of end-point assessment period: .....	4
Order of assessment methods .....	4
Gateway .....	4
Assessment methods.....	6
Weighting of assessment methods .....	12
Grading.....	12
Roles and responsibilities .....	24
Internal Quality Assurance (IQA).....	25
Re-sits and re-takes.....	26
Affordability.....	26
Professional body recognition .....	26
Reasonable adjustments .....	26
Mapping of knowledge, skills and behaviours (KSBs) .....	28

## Introduction and overview

This document sets out the requirements for end-point assessment (EPA) for the Marine Surveyor apprenticeship standard. It is for end-point assessment organisations (EPAOs) who need to know how EPA for this apprenticeship must operate. It will also be of interest to Marine Surveyor apprentices, their employers and training providers.

Full time apprentices will typically spend 48 months on-programme (before the gateway) working towards the occupational standard, with a minimum of 20% off-the-job training. All apprentices will spend a minimum of 12 months on-programme.

The EPA period should only start, and the EPA be arranged, once the employer is satisfied that the apprentice is consistently working at or above the level set out in the occupational standard, all of the pre-requisite gateway requirements for EPA have been met and that they can be evidenced to an EPAO.

All pre-requisites for EPA assessment methods must also be complete and available for the assessor as necessary.

As a gateway requirement and prior to taking the EPA, apprentices must complete all approved qualifications mandated in the Marine Surveyor standard.

These are:

- Bachelor of Engineering (BEng) Marine Surveying, Marine Engineering or Naval Architecture

For level 3 apprenticeships and above apprentices without English and mathematics at level 2 must achieve level 2 prior to taking their EPA.

The EPA must be completed within an EPA period typically lasting eight months, beginning when the apprentice has passed the EPA gateway.

The EPA consists of two discrete assessment methods.

The individual assessment methods will have the following grades:

### **Assessment method 1:** Workplace Survey Project with presentation and questioning

- Fail
- Pass
- Distinction

### **Assessment method 2:** Interview supported by a portfolio of evidence

- Fail
- Pass
- Distinction

Performance in the EPA will determine the overall apprenticeship standard and grade of:

- Fail
- Pass
- Distinction

## EPA summary table

<p><b>On-programme</b> (typically 48 months)</p>	<ul style="list-style-type: none"> <li>• Training to develop the occupation standard's knowledge, skills and behaviours.</li> <li>• Working towards English and maths at level 2 if required</li> <li>• Compilation of portfolio of evidence</li> </ul>
<p><b>End-point Assessment Gateway</b></p>	<ul style="list-style-type: none"> <li>• Employer is satisfied the apprentice is consistently working at, or above, the level of the occupational standard.</li> <li>• English/mathematics Level 2, as a minimum</li> </ul> <p>Apprentices must complete the following approved qualifications mandated in the standard:</p> <ul style="list-style-type: none"> <li>• BEng Marine Surveying, Marine Engineering or Naval Architecture</li> </ul> <p>Employer and EPAO must have agreed:-</p> <ul style="list-style-type: none"> <li>• Workplace survey project subject, title and scope</li> </ul> <p>Apprentices must complete:</p> <ul style="list-style-type: none"> <li>• Portfolio of evidence to support the interview</li> </ul>
<p><b>End Point Assessment</b> (which would typically take eight months)</p>	<p>Assessment method 1: Workplace Survey Project with presentation and questioning</p> <p>With the following grades:</p> <ul style="list-style-type: none"> <li>· Fail</li> <li>· Pass</li> <li>· Distinction</li> </ul>

	<p>Assessment Method 2: Interview supported by a portfolio of evidence</p> <p>With the following grades:</p> <ul style="list-style-type: none"> <li>· Fail</li> <li>· Pass</li> <li>· Distinction</li> </ul> <p>Overall end-point assessment grade of:</p> <ul style="list-style-type: none"> <li>· Fail</li> <li>· Pass</li> <li>· Distinction</li> </ul>
<b>Professional recognition</b>	<p>Aligns with recognition by:</p> <ul style="list-style-type: none"> <li>• Institute of Marine Engineering, Science and Technology (IMarEST) - Incorporated Engineer (IEng)</li> </ul>

## Length of end-point assessment period:

The EPA will typically be completed within eight months, from when the EPAO confirms that the Apprentice has passed the Gateway.

Any supporting material required for the EPA should be submitted at the gateway. If an EPA assessment method is failed, it should be retaken within the EPA period and in-line with the requirements set out in this assessment plan.

## Order of assessment methods

The assessment methods can be delivered in any order. The result of one assessment method does not need to be known before taking the next.

## Gateway

The EPA period should only start once the employer is satisfied that the apprentice is consistently working at or above the level set out in the occupational standard, that is to say they have achieved occupational competence. In making this decision, the employer may take

advice from the apprentice's training provider(s), but the decision must ultimately be made solely by the employer.

In addition to the employer's confirmation that the apprentice is working at or above the level in the occupational standard, the apprentice must have completed the following gateway requirements prior to beginning EPA:

English and mathematics at level 2.

For those with an education, health and care plan or a legacy statement the apprenticeships English and mathematics minimum requirement is Entry Level 3 and British Sign Language qualification are an alternative to English qualifications for whom this is their primary language.

Apprentices must complete the following approved qualifications as mandated in the standard:

- BEng Marine Surveying, Marine Engineering or Naval Architecture

For Workplace Project with presentation and questioning, the employer and EPAO must have agreed the project's subject, title and scope at the gateway. This is to include detail of the survey project, including:

- Background to and purpose of the survey;
- Costings for survey and reporting;
- Regulatory framework, referring to all applicable Statutory Regulations, Rules, Guidance and Best Practice;
- Real and potential hazards and risks and management of same through effective control measures. This should include corporate, reputational and business risks, as well as those affecting health and safety and environmental protection;
- Clarification of stakeholder relationships and stakeholder engagement;
- Proposed plan for implementation;
- Potential outcomes from the survey; and
- Agreed measures for success of the survey project.

For Interview supported by a portfolio of evidence, the apprentice will be required to:

- prepare and submit a portfolio of evidence mapping experience against those KSBs that are being assessed by this method
- each piece of evidence may map to more than one KSB, this will typically result in 20 pieces of evidence to cover all KSBs assigned to the interview.
- provide confirmation from their employer that the apprentice is working at the level of, or above, the apprenticeship standard. The employer must sign off the portfolio of evidence, thereby authenticating it and confirming that the apprentice is ready to take the EPA
- the portfolio of evidence itself is not assessed, it is used to inform the questioning for the occupational competence interview.

- apprentices must compile a portfolio of evidence during the on-programme period of the apprenticeship
- employers/training providers are free to devise their own version of the portfolio of evidence, but the portfolio of evidence would typically contain the following information:
  - The name of the apprentice
  - Details of the apprentice's workplace
  - Sufficient evidence to support each of the KSBs related to this assessment method. Evidence can be provided through a range of sources; for example, performance review documentation, witness statements, training records/certificates and work products such as risk assessments, reports, meeting records, plans etc. The portfolio of evidence cannot include self-assessment narrative, other than records of learning activities targeting their own professional development; instead feedback from line managers, customers, stakeholder etc. should be provided. Ideally, any employer contributions should focus on direct observation of evidence (e.g. witness statements) of competence rather than opinions
  - Confirmation from the apprentice's line manager that the tasks were completed to the required standard of the organisation

## Assessment methods

### Assessment Method 1: Workplace Survey Project with presentation and questioning

**This assessment method has two components:** 1) workplace survey project and 2) work based project presentation with questioning. These two components are assessed holistically, to ensure that all KSBs mapped to this assessment method are covered,

#### Method 1 Component 1: Workplace Survey Project

##### Overview

The project is compiled after the apprentice has gone through the Gateway process.

The work-based project should be designed to ensure that the apprentice's work meets the needs of the business, is relevant to their role and allows the relevant KSBs to be demonstrated for the EPA. Therefore, the project's subject, title and scope will be agreed between the employer and the EPAO. The employer will ensure it has a real business application and the EPAO will ensure it meets the requirements of the EPA (including suitable coverage of the KSBs assignment to this assessment method). The EPAO should sign-off the workplace survey project title to confirm its suitability prior to the project commencing.

**The rationale for this assessment method is:**

The Marine Surveyor occupation involves the planning and execution of a range of vessel surveys. To be fully competent, the apprentice must prove their ability to plan and execute such surveys, taking account of technical issues, necessary compliance frameworks including regulations and rules, budgetary and time constraints, safety and the quality of the final workplace survey report. This is an effective assessment method for this complex occupation, as it replicates workplace practices and addresses a range of KSBs.

The EPAO and employer should sign-off the project subject, title and scope to confirm its suitability prior to the apprentice going through the EPA gateway.

## Delivery

Apprentices will conduct a workplace survey project and the delivery outcomes will be in the form of a workplace survey report.

The apprentice will conduct their project and submit it to the EPAO after a maximum of twelve weeks of the EPA start date.

The employer will ensure the apprentice has sufficient time and the necessary resources, within this period, to plan and undertake the project. Typically, the workplace survey project and project report will take 3 – 4 weeks to complete.

Whilst completing the project, the apprentice must be supervised by the employer.

The survey report must be submitted in electronic format.

The project will be based on a vessel survey

The following template should be used for the workplace survey report:

1. An introduction;
2. The scope of the survey, including the operational case, and key performance indicators, in terms of expected outcome;
3. The survey planning process and preparations beforehand, linked to appropriate regulations and rules, compliance frameworks and contracts, where appropriate;
4. A survey project plan, detailing the timescales and resources involved;
5. Technical decisions made, including supporting references and evidence linked to clear requirements;
6. Cost breakdown and consideration of financial options, where appropriate;
7. The survey observations and findings, including details of any innovation or other variation from established practice, including detail of associated research;
8. Survey outcomes, including the ship or vessel owner's/operator's resolution of deficiencies, and personnel and safety considerations;
9. Recommendations and conclusions, including lessons learned from the survey, reflecting on the quality of the survey delivery and a critical assessment of potential improvements to the survey planning process;

10. An appendix, mapping how the survey project evidences each of the relevant KSBs for this assessment method

The workplace survey report should be no longer than 10,000 words. A tolerance of plus or minus 10% is allowed. Appendices, references, diagrams etc. will not be included in this total.

The project must map, in an appendix how it evidences the relevant KSBs for this assessment method.

When the project is submitted, the employer and the apprentice should verify the submitted work is that of the apprentice. This is confirmed by an employer sign-off.

### Marking

The independent assessor will review the project in a timely manner, as determined by the EPAO, and without extending the EPA unnecessarily. Similarly, all quality control processes will also be conducted in a timely manner, as determined by the EPAO.

The Workplace Survey Project Report must be submitted to the EPAO at least 2 weeks before the Work-based project presentation with questioning to allow the assessor time to review the report.

### Required supporting material

EPAOs will produce the following material to support this assessment method:

- Assessment sheet for the independent assessor based on assessment criteria linked to the KSBs

## Method 1 Component 2: Work-based project presentation with questioning

### Overview

Apprentices will prepare and deliver a presentation that appropriately covers the KSBs assigned to this method of assessment.

The presentation will be based on the workplace survey project and will cover the survey scope, outcomes/ achievements, any difficulties faced/lessons learned and recommendations. There are no restrictions on how apprentices deliver the presentation or support resources/materials used. However, any equipment requirements, (for example, computer and software, whiteboard, flip chart etc.) must be agreed with the EPAO, at least two weeks in advance of the presentation. Generally, presentations will consist of 5-8 presentation slides, supported by a handout or A1 poster.

The presentation will be performed to an independent assessor, either face-to-face or via online video conferencing. If using an online platform, EPAOs must ensure appropriate measures are in place to prevent misrepresentation.

### The rationale for this assessment method is:

The Marine Surveyor occupation involves reporting the results of planned vessel surveys in the form of a survey report and presentation. To be fully competent, the apprentice must prove their ability to communicate the outcome of such surveys to appropriate stakeholders. This is

an effective assessment method for this complex occupation as it replicates workplace practices and addresses a range of KSBs.

### Delivery

The presentation and questioning will last for 60 minutes. Typically, the presentation will last for 20 minutes and questioning will typically last for 40 minutes. The assessor has the discretion to increase the time of the presentation and questioning by up to 10% to allow the apprentice to complete their last point.

The independent assessor will ask a minimum of ten questions at the end of the presentation. The independent assessor will develop questions using a combination of a review of the Workplace Survey Project and the EPAO question bank. Follow up questions devised by the independent assessor are allowed to seek clarification. Questions and responses must be recorded by the independent assessor.

The independent assessor will make all grading decisions.

### Venue

EPAOs must ensure that the presentation and questioning elements are conducted in a suitable controlled environment in any of the following:

- employer's premises
- other suitable venue selected by the EPAO (e.g. a training provider)

The venue should be a quiet room, free from distraction and external influence.

### Support material

EPAOs will produce the following material to support this assessment method:

- Assessment sheet for the independent assessor based on assessment criteria linked to the KSBs
- A 'question bank' of sample questions to be used following the presentation. This bank must be of sufficient size to prevent predictability and be reviewed regularly (at least once a year) to ensure the questions are fit for purpose.

## Assessment Method 2: Interview supported by a portfolio of evidence

This assessment method has one component: Interview supported by a portfolio of evidence

### Method 2 Component 1: Interview supported by a portfolio of evidence

#### Overview

This assessment will take the form of an interview supported by a portfolio of evidence, which must be appropriately structured to draw out the best of the apprentice's competence and excellence and cover the KSBs assigned to this assessment method. It will involve the

questions that will focus on offering the apprentice an opportunity to demonstrate occupational competence.

The interview can take place in any of the following:

- employer's premises
- a suitable venue selected by the EPAO (e.g. a training provider's premises)

**The rationale for this assessment method is:**

The purpose of this interview is to determine the extent to which the apprentice understands the requirements of the role and can corroborate their KSBs with examples from their portfolio of evidence. The portfolio of evidence itself will not be assessed, but will be used by the apprentice to exemplify their responses to the questions asked by the independent assessor during the interview. This method of assessment gives the independent assessor the opportunity to explore KSBs not easily evidenced with the workplace survey project to ensure all relevant competency elements are evidenced. It is also the most effective way of determining competence in the behavioural elements of this occupational standard.

**Delivery**

The independent assessors will conduct and assess the interview supported by a portfolio of evidence.

The interview supported by a portfolio of evidence must last for 60 minutes. The independent assessor has the discretion to increase the time of the interview by up to 10% to allow the apprentice to complete their last answer. Further time may be granted for apprentices with appropriate needs, in-line with an EPAOs Reasonable Adjustments policy.

The interview will consist of a minimum of ten questions. The assessor will develop questions using a combination of those drawn from a question bank prepared by the EPAO and those generated by themselves following their review of the portfolio of evidence. Follow up questions devised by the independent assessor are allowed to seek clarification.

The interview supported by a portfolio of evidence will be conducted as set out here:

- The interview must take place on a one-to-one basis between an independent end-point assessor appointed by the EPAO and the apprentice.
- The interview will be supported by the portfolio of evidence and must cover each of the major areas of the assessment method:-
  - Survey planning and execution
  - Technical expertise – rules, regulations and conventions
  - Technical expertise – engineering
  - Communication
  - Leadership and management
  - Health and safety
- A copy of the portfolio of evidence must be made available by the employer to the end point assessment organisation following confirmation that the Apprentice has passed the Gateway. The end-point assessment organisation should ensure that the independent assessor

conducting the interview is presented with the portfolio no less than 2 weeks prior to the interview, to allow for preparation.

- The apprentice must be given suitable notice of the interview, not less than 2 weeks, to provide preparation time (for example, to make travel arrangements if necessary).
- The independent assessor must use the assessment tools and procedures that are set by the EPAO to record the interview.
- Video conferencing can be used to conduct the interview, but the EPAO must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided in any way e.g. use of a 360 degree camera to allow the assessor to look around the room during the interview.

The independent assessor must use the assessment tools and procedures that are set by the EPAO to record the interview supported by a portfolio of evidence.

The independent assessor will make all grading decisions.

### Venue

The interview supported by a portfolio of evidence should take place in a quiet room, free from distractions and influence.

### Other relevant information

A question bank must be developed by EPAOs. The 'question bank' must be of sufficient size to prevent predictability and the EPAO must review it regularly (and at least once a year) to ensure that it, and its content, are fit for purpose. The questions relating to the underpinning knowledge, skills and behaviours, must be varied yet allow assessment of the relevant KSBs.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits/re-takes.

Independent assessors must be developed and trained by the EPAO in the conduct of interview supported by a portfolio of evidence and reaching consistent judgement.

EPAOs will produce the following material to support this assessment method:

- Assessment sheet for the independent assessor based on assessment criteria linked to the KSBs
- A question bank of sample questions, although independent assessors will need to tailor questions according to the work seen in the portfolio of evidence. Such tailoring shall be to account for the type of organization that the apprentice works for (for example: Government body, Classification Society, P&I Club, Certifying Authority, independent consultancy) and the type and purpose of vessels that the apprentice has been working on, during compilation of the portfolio (for example: passenger ships, tankers, cargo vessels, naval ships or craft, workboats, small commercial vessels or leisure vessels). The question bank should be of sufficient size to prevent predictability and be reviewed regularly (at least once a year) to ensure the questions are fit for purpose.

## Weighting of assessment methods

All assessment methods are weighted equally in their contribution to the overall EPA grade.

## Grading

### Assessment method 1: Workplace Project with presentation and questioning

KSBs	Fail	Pass	Distinction
Survey Planning and execution K1, K3, S3, S4, B3, B6	Does not meet the pass criteria	<p>Evaluates requirements for the survey, including type of survey and relevant contract law, and sets expectations appropriate to background and purpose of survey.</p> <p>Describes organising and planning a survey, working under pressure to strict deadlines, detailing how those deadlines were achieved without compromising cost or quality e.g. completing all survey requirements within a scheduled dry-docking period</p> <p>Plans, implements and monitors the project to time, cost and quality</p> <p>Manages extra and emergent work in accordance with the contract and project scope i.e. within financial and time constraints ensuring the required company quality standards are met</p>	<p>Demonstrates strategic leadership and uses proven project management techniques such as critical path analysis and performance management to ensure outcomes are achieved effectively and efficiently</p> <p>Implements additional systems/methods/ service improvements not outlined in the original project brief/business case, for example to reduce costs and environmental impact for the client or company.</p> <p>Demonstrates an ability to manage several planned surveys simultaneously in a safe, and efficient manner. Including the need to set an amended pricing structure and programme as required.</p> <p>Justifies project management techniques used, outlining the benefits and demonstrating their application in delivering practical solutions within a regulated sector e.g.</p>

		<p>and correct contract variation procedure is used e.g. when the scope of the survey has unexpectedly increased due to the identification of major structural defects</p>	<p>demonstrating fully- planned and effective control of long-term surveys involving more than one surveyor, either consecutively or, attending a vessel together for different aspects of the same survey</p> <p>Describes how to manage issues and risks when a project does not perform to plan in terms of cost, timescales and/or quality, and the mitigating actions imposed</p>
<p>Technical expertise – rules, regulations and conventions K10, S8, S9</p>	<p>Does not meet the pass criteria</p>	<p>Identifies and applies appropriate tonnage, displacement and load line measurement and calculations, including international and UK Load Line conventions and regulations</p> <p>Identifies and evaluates appropriate engineering principles applicable to the survey</p> <p>Identifies and applies appropriate Classification Society rules, statutory regulations, conventions and applicable British, EU or International Standards to the vessel, e.g. International Convention for the Prevention of Pollution from Ships (MARPOL), International Convention for marine safety (SOLAS), High Speed Craft, Dangerous Goods</p>	<p>Utilises a range of principles and techniques to enhance the decision- making process e.g. applies knowledge and experience in locating and utilising appropriate principles, techniques and regulatory requirements which determine and defend survey decisions</p> <p>Demonstrates analysis and precision in the way principles and techniques are selected and applied to enhance the robustness of decisions and improve the reliability of results e.g. by using the most suitable, not the most obvious technique or tool applicable to a particular situation</p> <p>Demonstrates an understanding of how the survey result can lead to regulatory and Classification Society rule modifications and amendments</p> <p>Applies engineering principles in accepting arrangements not directly in compliance with the</p>

			<p>written regulation or rules through corresponding with Flag States or Classification Societies</p> <p>Identifies and considers additional appropriate rules, regulations and conventions to a vessel, e.g. Ice conditions, certification for multiple or complex vessel operations</p>
<p>Technical expertise – engineering</p> <p>K11, K13, K18, K19, K25, S5, S6, S13, S14</p>	<p>Does not meet the pass criteria</p>	<p>Identifies and demonstrates awareness and understanding of typical ship and vessel machinery and systems, including methods of operation, condition and performance assessment and compliance with relevant associated regulations</p> <p>Identifies, applies and evaluates appropriate engineering theory and calculations, to verify expected hydrostatic, handling and hydrodynamic performance of the vessel being surveyed</p> <p>Identifies and demonstrates awareness and understanding of the ship, vessel, machinery and systems market place</p> <p>Appraises valuation of the subject under survey using calculated and market comparison techniques</p> <p>Demonstrates correct verification of survey results, observations and</p>	<p>Solutions exceed expectations in relation to key impact measures</p> <p>Articulates how they have taken research and analysis further e.g. by looking outside of their own organisation or engineering practices to predict or solve survey related problems</p> <p>Proposes and effects the most suitable, not the most obvious, of techniques and tools through knowledge and understanding of a wide range survey options, rules and regulations applicable to a particular situation</p> <p>Demonstrates analysis and precision in the way principles and techniques are selected and applied to enhance the robustness of decisions and improve the reliability of results</p> <p>Appraises non-standard design and alternative design arrangements in determining the condition of a fully compliant vessel and, applies this knowledge in determining the survey result e.g. prototype vessels, emerging</p>

		<p>findings with relevant application and interpretation of conventions, regulations and rules, leading to the successful delivery of a survey task, cognisant of relevant operational and environmental circumstances pertaining to the activity</p> <p>Describes and defines the scope and potential failures. Well-structured data analysis using at least one appropriate statistical tool or analytical technique to examine engineering information, data and design using calculations pertinent to the scenario such as probability distributions, significance testing and confidence limits, regression and correlation</p> <p>Applies, selects and interprets principles and results correctly and, as appropriate, the application of requirements (e.g. Standards), methods and techniques, leading to the successful interpretation and understanding of a ship, vessel, machine or system design for the purposes of the survey</p> <p>Applies, selects and interprets engineering principles, formulae and the results correctly and, as appropriate, with the</p>	<p>technologies and emerging construction materials</p> <p>Explains fully the principles and techniques used in the survey findings decision process and can describe these in clear but effective manner e.g. the principles of dissimilar metals such as stainless-steel cladding of a mild steel rudder blade</p>
--	--	--	--

		<p>application of requirements (e.g. Standards), methods and techniques</p> <p>Interprets results and findings from on-board readings correctly with expected calculated output, leading to the successful interpretation and understanding of a ship, vessel, machine or system design for the purposes of the survey</p> <p>Applies, selects and interprets scientific principles, formulae and the results correctly and, , with the application of requirements (e.g. Conventions, Regulations, Rules and Standards), methods and techniques</p> <p>Applies, selects and interprets results and findings from on-board readings, observations and tests with expected calculated output, leading to the successful interpretation and understanding of a ship or vessel condition and performance e.g. interpreting calculations or Non Destructive Testing results</p> <p>Compares trends in the market place and can identify and apply these trends to various assets including different vessel types and various types of machinery and equipment.</p>	
--	--	---	--

		<p>Can identify and apply external influencing factors such as oil prices and charter rates</p> <p>Provides examples of market evaluation techniques to, evidence experience and understanding of market trends over an estimate-influencing period such as the sale of vessels and the associated cost trends. Uses this information to determine the value of an asset</p>	
<p>Communication K15, K16, S11, S12</p>	<p>Does not meet the pass criteria</p>	<p>Produces a succinct and accurate survey report, with reasoned conclusions and recommendations</p> <p>Demonstrates effective presentation and listening skills and expresses their points in a succinct manner using appropriate, sector-specific terminology.</p>	<p>Demonstrates ability to lead the discussion, selecting and applying the latest trends, technologies and issues in the sector e.g. assesses emerging technology and the regulatory impact on projects and budgetary constraints</p>
<p>Health &amp; safety K20, K8, K22, S16</p>	<p>Does not meet the pass criteria</p>	<p>Appraises the safety processes and culture on-board vessels against accepted international standards e.g. International Safety Management (ISM) and International Labour Organization - Maritime Labour Convention (ILO-MLC)</p>	<p>N/A</p>

		Explains the processes and record-keeping involved in hazard identification and risk assessment for access to and egress from a vessel and for vessel survey	
--	--	--	--

## Assessment method 2: Interview supported by a portfolio of evidence

KSBs	Fail	Pass	Distinction
Survey Planning and execution K2, B1, B2	Does not meet the pass criteria	<p>Critically evaluates the client-side parties for due diligence, and is aware of corporate risk, evidencing control measures to minimise that risk, in all work undertaken</p> <p>Describes examples of when they have acted under their own initiative and with integrity</p> <p>Provides at least three examples for each ship type (dry cargo, wet cargo and passenger ship of working autonomously and interacting effectively with others, taking account of the impact of work on others</p>	<p>Describes how to assess the level of corporate risk to the survey company, and to the ship management company, whilst deciding upon actions required to address survey findings</p> <p>Explains effective actions (recommendations) required in a clear and professional manner having considered corporate risk arguments from the client, but without being unduly influenced e.g. can provide three examples of considering owners proposals for defect rectification prior to issuing a survey recommendation. This may include the need to discharge cargo or to relocate the vessel to another geographical area due to dry dock availability, without placing corporate matters ahead of safety or regulatory requirements</p>

			<p>Describes research and preparedness beyond the definitions of the scope of the survey, under own initiative, for integration of activities with other priorities</p> <p>Describes strategic leadership, project management techniques, theory and practice to prepare and conduct surveys</p>
<p>Technical expertise – rules, regulations and conventions</p> <p>K7, K9, K12, K14</p>	<p>Does not meet the pass criteria</p>	<p>Explains relevant rules, regulations and conventions appropriate to the workplace and their effect on technical planning and execution of surveys</p>	<p>Describes the latest, and forthcoming, regulations and compliance requirements for a wide range of vessel types and proposes likely impacts upon their operational application</p> <p>Evaluates the impact of not following regulatory practices and the potential consequences and risks to the operation</p>
<p>Technical expertise – engineering</p> <p>K4, K5, K6, K17, K23, S17</p>	<p>Does not meet the pass criteria</p>	<p>Explains the difference in vessels of varying construction types and complexity, including loading and environmental conditions ., and the impact on survey planning and execution e.g. for ship types such as Bulk Carrier and Very Large Crude Carriers (VLCC), accurately describes the differences found in their structural details and the consequent difference in planning a structural survey for each ship type,</p> <p>Evaluates complex, technical information from a variety of sources,</p>	<p>Identifies structural components and the design of these components, including steel section profiles, mechanical properties and, the tests required for construction materials</p> <p>Gives an example from Marine Accident and Investigation Branch (MAIB) or other reports, to evidence knowledge and discusses the process of accident investigations or root cause analysis of failures of ships structure, machinery or equipment and applies this to the survey matter</p>

		<p>including accident and incident reports, to draw accurate conclusions and make informed decisions e.g. recalls previous official investigation reports, such as those issued by the Marine Accidents Investigations Branch (MAIB) and uses these findings in enforcing survey decisions by educating Masters and owners of such matters</p>	
<p>Communication S1, S2, B4, B5</p>	<p>Does not meet the pass criteria</p>	<p>Explains their points using appropriate, sector-specific terminology with accurate contributions</p> <p>Able to respond to wide ranging technical questioning with ability to respect opinion of others.</p> <p>Describes developing successful working relationships with stakeholders, includes examples of influencing others, taking account of the priorities of others and challenging to effect change e.g provides two personal examples of survey findings which have been defended when disputed by ships Master of Ship Owner. For example when the Master or owner refuses to accept a recommendation or conditional statutory certificate.</p>	

<p>Leadership and management K21, S10, S15, B7</p>	<p>Does not meet the pass criteria</p>	<p>Implements and enforces unpopular decisions with integrity, demonstrating respect for others and a determination to resolve issues</p> <p>Explains how they build, lead and manage successful teams through drive and motivation e.g by explaining how they would select a team, how duties would be assigned to each team member and how team motivation can be maintained in particular during surveys in unfavourable conditions (heat, cold etc) or during long term surveys</p>	<p>Achieves a high-performance work culture and superior business results through successful leadership, including setting clear business goals, defining employees' responsibilities, motivating and empowering others and encouraging employees to continuously grow and develop</p>
<p>Health &amp; safety K24, S7</p>		<p>Provides at least three examples for dry cargo ships, three for liquid cargo ships and three for passenger ships, of consistent, safe and professional working practices, aligned with regulatory and ethical requirements, as being central to work in order to keep themselves and others safe</p>	<p>N/A</p>

## Overall EPA grading

Both EPA methods must be passed for the EPA to be passed overall.

Both EPA methods must be rated distinction to have an overall grade of distinction.

Apprentices can be awarded a distinction in assessment method one by achieving all distinction grading statements within three of the four main areas (survey planning and execution, technical expertise – rules, regulations and conventions, technical expertise – engineering, communication). Apprentices can be awarded a distinction in assessment method two by achieving all distinction grading statements within three of the four areas (survey planning and execution, technical expertise – rules, regulations and conventions, technical expertise – engineering, leadership and management).

Grades from individual assessment methods should be combined in the following way to determine the grade of the EPA as a whole:

Assessment method 1 – Workplace project	Assessment method 2 – interview supported by a portfolio of evidence	Overall grading
Fail	Any grade*	Fail
Any grade	Fail	Fail
Pass	Pass	Pass
Pass	Distinction	Pass
Distinction	Pass	Pass
Distinction	Distinction	Distinction

\*Any grade = Pass or distinction

## Roles and responsibilities

Role	Responsibility
Apprentice	<ul style="list-style-type: none"> <li>• Complete the on-programme element of the apprenticeship</li> <li>• Prepare for and complete the EPA</li> </ul>
Employer	<ul style="list-style-type: none"> <li>• Choose an independent EPAO approved to deliver the EPA for this apprenticeship standard from the Education &amp; Skills Funding Agency's (ESFA) Register of End-Point Assessment Organisations (RoEPAO)</li> <li>• Identify when the apprentice is ready to pass the gateway and undertake the EPA</li> </ul>
EPAO	<p>As a minimum EPAOs should:</p> <ul style="list-style-type: none"> <li>• appoint administrators/invigilators and markers to administer/invigilate and mark the EPA</li> <li>• provide training and CPD to the independent assessors they employ to undertake the EPA</li> <li>• have no direct connection with the apprentice, their employer or training provider i.e. there must be no conflict of interest</li> <li>• have processes in place to conduct internal quality assurance and do this on a regular basis</li> <li>• organise standardisation events and activities in accordance with this plan's IQA section</li> <li>• organise and conduct moderation of independent assessors' marking in accordance with this plan</li> <li>• have, and operate, an appeals process</li> <li>• appoint suitable independent assessors who are appropriately qualified and experienced in assessment</li> <li>• design and develop EPA tools, documentation and processes, including a bank of questions for the EPA interview</li> </ul>
Independent assessor	<p>As a minimum an Independent assessor should:</p> <ul style="list-style-type: none"> <li>• be independent of the apprentice, their employer and training provider(s) i.e. there must be no conflict of interest</li> <li>• have had training from their EPAO in terms of good assessment practice, operating the assessment tools and grading</li> </ul>

	<ul style="list-style-type: none"> <li>• have the capability to assess the apprentice at this level</li> <li>• attend the required number of EPAOs standardisation and training events per year (as defined in the IQA section)</li> <li>• have relevant experience of the occupation/sector gained in the last two years and hold qualifications at an equivalent level or higher than that of the apprentice</li> </ul>
Training provider	<p>As a minimum the training provider should:</p> <ul style="list-style-type: none"> <li>• work with the employer to ensure that the apprentice is given the opportunities to develop the KSBs outlined in the standard and monitor their progress during the on-programme period</li> <li>• advise the employer, upon request, on the apprentice's readiness for EPA prior to the gateway</li> <li>• Plays no part in the EPA itself</li> </ul>

## Internal Quality Assurance (IQA)

Internal quality assurance refers to the requirements that EPA organisations must have in place to ensure consistent (reliable) and accurate (valid) assessment decisions. EPA organisations for this EPA must:

- appoint independent assessors who have knowledge of the following occupational areas:  
marine engineering, naval architecture, marine sector
- appoint independent assessors who are competent to deliver the end-point assessment and who meet the following minimum requirements:
  - be independent of the apprentice, their employer and training provider(s) i.e. there must be no conflict of interest
  - have had training from their EPAO in terms of good assessment practice, operating the assessment tools and grading
  - have relevant experience of the occupation/sector gained in the last two years and hold qualifications at an equivalent level or higher than that of the apprentice
  - undertake a minimum of 1-days' EPAO standardisation training per year
- provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading
- have robust quality assurance systems and procedures that support fair, reliable and consistent assessment across the organisation and over time.

- operate induction training and standardisation events for independent assessors when they begin working for the EPAO on this standard and before they deliver an updated assessment method for the first time

## Re-sits and re-takes

Apprentices who fail one or more assessment method will be offered the opportunity to take a re-sit or a re-take. A re-sit does not require further learning, whereas a re-take does.

Apprentices should have a supportive action plan to prepare for the re-sit or a re-take. The apprentice's employer will need to agree that either a re-sit or re-take is an appropriate course of action.

An apprentice who fails an assessment method, and therefore the EPA in the first instance, will be required to re-sit any failed assessment methods only.

Any assessment method re-sit or re-take must be taken during the EPA period, otherwise the entire EPA must be taken again, unless in the opinion of the EPAO exceptional circumstances apply outside the control of the apprentice or their employer.

Re-sits and re-takes are not offered to apprentices wishing to move from pass to merit/distinction or merit to distinction.

Where any assessment method has to be re-sat or re-taken, the apprentice will be awarded a maximum EPA grade of pass, unless the EPAO determines there are exceptional circumstances requiring a re-sit or re-take.

## Affordability

Affordability of the EPA will be aided by using at least some of the following practice:

- using an employer's premises
- remote assessment is permissible, reducing travel costs, e.g. video conferencing
- workplace project will be designed to have business benefit

## Professional body recognition

This apprenticeship is designed to prepare successful apprentices to meet the requirements for registration as Marine Surveyor with Institute of Marine Engineering, Science and Technology (IMarEST).

## Reasonable adjustments

The EPAO must have in place clear and fair arrangements for making reasonable adjustments for this apprenticeship standard. This should include how an apprentice qualifies for Reasonable Adjustment and what Reasonable Adjustments will be made. The adjustments

must maintain the validity, reliability and integrity of the assessment methods outlined in this assessment plan.

## Mapping of knowledge, skills and behaviours (KSBs)

KSB code	KSB statement	Methods mapped against
<b>Knowledge</b>		
K1	Contracting, contract law, setting expectations, request for services, the parameters of the role including liability and risk.	Assessment method 1
K2	Due diligence and corporate risk assessment processes.	Assessment method 2
K3	Different types and purpose of surveys and the implications on planning timescales, budget and scope: e.g. in water, out of water, cargo, machinery, stability, towage, etc., and the impact of location and weather conditions	Assessment method 1
K4	Vessel layout, construction and operation for a range of vessels of varying types and complexity, including types of vessel and area of operations (e.g. world-wide, coastal, domestic or inland), and terminology used for naming parts of ships, boats and other vessels.	Assessment method 2
K5	Types and properties of materials used in ship construction & repair such as wood, steel, aluminium, glass reinforced polymers (GRP) and carbon fibre.	Assessment method 2
K6	Principles of design, construction and operation of main propulsion, auxiliary, deck and other machinery, equipment and systems, typically used in ships, boats and other vessels.	Assessment method 2
K7	Relevant International Maritime Organization (IMO) conventions and applicable regulations, appropriate standards and best operational practice (e.g. IMO Conventions on: Load Line, Safety of Life at Sea, Maritime Pollution, associated UK maritime regulations including but not limited to: UK Merchant Shipping Act	Assessment method 2

	1995, Life Saving Appliances Regulations, Small Commercial Vessel Codes and regulations, Regulations and Rules for Lifting Equipment and Lifting Operations, including testing and examination, Accident and Hazardous Incident Reporting Regulations. International Standards Organisation (ISO), European Norms (EN) and British Standards Institution (BSI) Standards relevant to ships and commercial and leisure vessels.	
K8	Safe access to and egress from the vessel	Assessment method 1
K9	Comparison of design, construction, outfitting, equipping, and operation of a range of subject ships or vessels with selected appropriate Classification Society rules and MCA Regulations and Codes for design, construction and upkeep of ships and vessels, to identify and heighten awareness of deficiencies.	Assessment method 2
K10	Tonnage, displacement and load line measurement and calculations, including international and UK Load Line conventions and regulations.	Assessment method 1
K11	Typical ship and vessel propulsion, auxiliary, ancillary and deck machinery and systems appropriate to the vessel to be surveyed	Assessment method 1
K12	Rules, regulations and safe practice for the maritime carriage of passengers and specialist personnel.	Assessment method 2
K13	Theory and practice, including calculations regarding hydrostatics, vessel handling and hydrodynamics including towage	Assessment method 1
K14	Marine environmental protection, including responsibility of the vessel to port, national or international jurisdiction	Assessment method 2
K15	Effective oral and written communication strategies; the terminology used in this occupation and the appropriate format of survey reports.	Assessment method 1
K16	Effective audio-visual presentational strategies, techniques and systems	Assessment method 1

K17	Knowledge of the effects of load and damage to a ship and its characteristics.	Assessment Method 2
K18	The ship and vessel market place and relationship between typical build/construction/supply costs and market prices for a range of different ship and vessel types, operational purposes and ages	Assessment method 1
K19	The condition that would be expected from a fully compliant ship or vessel in good order and under competent management.	Assessment method 1
K20	The safety culture, safety management systems and practice onboard vessels to be expected from a fully compliant ship or vessel in good order and under competent management, as required by regulations	Assessment method 1
K21	The authority for detaining a vessel or, otherwise, prevent its departure or onward voyage, where the ship or vessel is not safe to operate.	Assessment Method 2
K22	Theory and practice for hazard identification, risk assessment, appropriate risk mitigation and development of safe systems of work.	Assessment method 1
K23	Purpose, structure and hierarchy within various organisations involved with ship design building, upkeep and operations, including the MCA and Classification Societies.	Assessment method 2
K24	Actions required and means of escape in emergency conditions (e.g. fire, flood, vessel instability).	Assessment method 2
K25	Failure mode effects analyses, investigative techniques and diagnosis of causal factors.	Assessment method 1
<b>Skills</b>		
S1	Communicate effectively and professionally at all levels both internally and externally.	Assessment method 2
S2	Positively challenge stakeholders to effect change where appropriate	Assessment method 2
S3	Assess requirements for the survey and organise and plan within the timescales and budget set.	Assessment method 1

S4	Manage time and resources effectively.	Assessment method 1
S5	Read and interpret drawings, data and other relevant information	Assessment method 1
S6	Interpret appropriate engineering formulae and compare results with actual on-board readings, data / calculations submitted and survey findings.	Assessment method 1
S7	Work competently and safely in the workplace to meet regulatory and legislative requirements	Assessment method 2
S8	Apply engineering principles, regulatory and Classification Society requirements to the ship, vessel, machinery, equipment or system	Assessment method 1
S9	Advise on appropriate regulations and guidance relevant to the vessel	Assessment method 1
S10	Build, lead and manage multifunctional teams, interacting with and influencing a range of internal and external stakeholders	Assessment method 2
S11	Produce succinct and accurate survey reports	Assessment method 1
S12	Deliver effective oral and audio-visual presentations	Assessment method 1
S13	Apply scientific calculation to various conditions of the ship (or other vessel) and the environment prevailing	Assessment method 1
S14	Assess the market and prevailing conditions, to calculate a value and price for the subject ship, vessel, machinery, equipment or systems.	Assessment method 1
S15	Set out and impose a decision upon ship owners, managers, operators, master and staff.	Assessment method 2
S16	Undertake effective hazard identification and risk assessment processes using recognised and appropriate procedures.	Assessment method 1
S17	Identify causal factors and means of prevention of re-occurrence of ship, structural, machinery, equipment or systems failures.	Assessment method 2
<b>Behaviours</b>		

B1	Be self-motivated with the ability to work independently and with integrity.	Assessment method 2
B2	Able to take personal responsibility for their actions, demonstrate leadership and show resilience.	Assessment method 2
B3	Able to work under pressure to tight deadlines.	Assessment method 1
B4	Able to influence a range of stakeholders within the parameters of the role.	Assessment method 2
B5	Able to take account of other people's priorities and needs.	Assessment method 2
B6	Able to take account of other people's priorities and needs.	Assessment method 1
B7	Personal resolution and determination in enforcing unpopular decisions.	Assessment method 2