



EAL Level 3 Diploma in Maritime Defence (Development Knowledge)

Qualification specification

Overview

This qualification has been developed to provide learners with knowledge and understanding of the practices and processes of a range of maritime defence engineering techniques. It covers the knowledge and understanding that is relevant to a wide variety of careers and study routes and take a hands-on approach to maritime defence engineering training.

Typical job roles

- Maritime mechanical fitter
- Maritime electrical fitter
- Maritime pipeworker
- Maritime fabricator

Qualification code: 603/2459/4
Level: 3
TQT: Minimum 600 hours
Minimum learning age: 16

Issue 2.0



Purpose of the qualification

What is this qualification?

This qualification is a Level 3 Diploma in Maritime Defence (Development Knowledge) and is a Vocational Related Qualification (VRQ). It will give learners knowledge and understanding of a range of maritime defence engineering techniques. The qualification covers the intermediate knowledge and understanding that is required by someone working in the maritime defence engineering sector. It takes a hands-on approach to foundation maritime defence engineering training by providing learners with:

- knowledge and understanding of a range of maritime defence engineering techniques
- information that will help them make more informed decisions about their career options
- personal skills to help them work effectively and achieve their potential

This is a graded qualification; learners can achieve a Pass, Merit or Distinction.

What does this qualification cover?

The qualification covers the specific knowledge and understanding of a range of maritime defence engineering disciplines which have been developed in consultation with employers, engineering industry specialists and training providers to ensure that it meets the needs of industry employers and learners.

The content and structure of the qualification has been developed to provide the appropriate level of knowledge and understanding required to be achieved and assessed to demonstrate full occupational knowledge in the foundation phase of the apprenticeship.

The qualification units are listed in Section 3.

This qualification is a Level 3 Diploma and has a minimum Total Qualification Time of 600 hours.

Who is this qualification for?

- Apprentices working towards a relevant apprenticeship standard
- Apprentices looking to advance to the development phase of a relevant apprenticeship standard

Who supports the qualification?

This qualification is:

- Accredited at Level 3 of the Regulated Qualifications Framework (RQF)
- Endorsed by employers as facilitating the completion of the foundation knowledge appropriate for the maritime defence engineering sector

What could this qualification lead to?

Typical job roles include:

- Maritime mechanical fitter
- Maritime electrical fitter
- Maritime pipeworker
- Maritime fabricator

The qualification will provide progression onto other suitable and appropriate Level 3 and Level 4 engineering and manufacturing qualifications.

Entry requirements

Apprentices must be at least 16 years old. There are no formal entry requirements for this qualification; however centres should ensure that the apprentice have the potential to achieve this qualification. Apprentices must have the minimum levels of literacy and numeracy to complete the learning outcomes and the external assessment.

Centres should make apprentices with particular requirements aware of the content of the qualification and they should be given every opportunity to successfully complete the qualification. EAL will consider any reasonable suggestions for, and from, those with disabilities that would help them to achieve the learning outcomes without compromising the standards required.

How is the qualification achieved?

The qualification is achieved when all the necessary units have been completed. The centre will then be able to apply for the apprentice's certificate of achievement. The apprentice will also receive a certificate of unit credit, listing all the units they have achieved.

What will be assessed?

This qualification is made up of units to which appropriate assessment methods, chosen by the maritime defence engineering employer group, have been applied. The units contain the learning outcomes and the assessment criteria that the learner is to be assessed against.

All learning outcomes within the qualification will be assessed. In order to meet this requirement, it is advised that centres should maintain an assessment and feedback record for each learner. This will detail the evidence evaluated against the learning outcome and the feedback given to the learner. All learner evidence must be available to the EAL external quality assurer.

Grading criteria

Learners must achieve a Pass in ALL components for the qualification to be awarded. If learners are unsuccessful in one or more of the assessment components then the overall result for the qualification will be 'referred' and a certificate will not be awarded.

Providing learners are successful in ALL assessment components, the final grade for the qualification will be determined from the grades achieved by learners in the external examination within the mandatory unit and the centre marked assessments within the optional units.

Please refer to the Grading Criteria within the Delivery Packs and Assessment Packs on how to grade individual units.

How will it be assessed?

Assessment methods within this qualification include an on-screen multiple choice examination for one mandatory unit and Centre marked theory assessments for the other units. Assessment methods have been designed to assess the knowledge and understanding of learners for all units.

The on-screen multiple choice examination is set by EAL and marked by EAL. The internal assessments are set by EAL and marked by members of the delivery team at the Centre.

Where the assessment takes the form of written/short answer or multiple choice question papers, these must be treated as controlled assessments.

All assessment decisions are then subject to internal and external quality assurance.

Structure

This qualification can be achieved by the apprentice by completing the mandatory units plus the required number of optional units

Mandatory units: all three mandatory units must be completed:

| EAL Code | Unit title | GL(hrs) | Ofqual Code |
|-----------|---|---------|-------------|
| AME3/001A | Engineering and environmental health and safety | 75 | T/615/4847 |
| MDEK3/002 | Engineering principles | 75 | K/616/4971 |
| AME3/004 | Engineering mathematics | 75 | T/615/4850 |

Pathway mandatory units: one pathway mandatory unit must be completed:

| | | | |
|-----------|---|----|------------|
| MDEK3/004 | Principles of mechanical engineering | 75 | M/616/4972 |
| MDEK3/005 | Principles of electrical and electronic engineering | 75 | T/616/4973 |
| MDEK3/006 | Principles of fabrication and welding | 75 | A/616/4974 |
| MDEK3/007 | Principles of pipework fabrication | 75 | F/616/4975 |

Optional units: a minimum of four optional units must be completed from the following:

| | | | |
|----------|---|----|------------|
| QET3/002 | Engineering organisational efficiency and improvement | 75 | L/507/0670 |
| QET3/3A | Further engineering mathematics | 75 | R/507/0329 |
| QET3/004 | Further electrical and electronic principles | 75 | Y/507/0672 |
| QET3/005 | Further engineering science | 75 | J/507/0294 |
| QET3/006 | Computer aided design (CAD) techniques | 75 | R/507/0296 |
| QET3/015 | Electrical testing and commissioning | 75 | M/507/0712 |
| QET3/017 | Pattern development | 75 | H/507/0321 |
| QET3/018 | Manual metal-arc (MMA) welding | 75 | F/507/0326 |
| QET3/019 | Metal inert gas, Metal active gas (MIG/MAG)welding | 75 | J/507/0327 |

Structure

This qualification can be achieved by the apprentice by completing the mandatory units plus the required number of optional units

Optional units: (Continued)

| | | | |
|-----------|--|----|------------|
| QET3/020 | Tungsten inert gas (TIG) welding process | 75 | F/507/0715 |
| QET3/023 | Producing sheet metal fabrications | 75 | Y/507/0543 |
| QET3/023A | Sheet metalwork technology | 75 | K/507/0353 |
| QET3/024 | Producing plate fabrications | 75 | K/507/0546 |
| QET3/027 | Shipbuilding operations | 75 | T/507/0548 |
| QET3/028 | Maintenance engineering principles | 75 | Y/507/0347 |
| QET3/029 | Maintenance of mechanical systems | 75 | D/507/0348 |
| QET3/030 | General engineering maintenance techniques | 75 | J/507/0540 |
| QET3/031 | Building mechanical maintenance systems and services | 75 | L/507/0541 |
| QET3/032 | Maintenance of refrigeration systems | 75 | R/507/0542 |
| QET3/033 | Maintenance of fluid power systems and components | 75 | D/507/0544 |
| QET3/034 | Maintenance of hydraulic systems and components | 75 | H/507/0545 |
| QET3/035 | Maintenance of pneumatic systems and components | 75 | T/507/0355 |
| QET3/036 | Electrical maintenance in buildings | 75 | Y/507/0770 |
| QET3/038 | Installation of electrical equipment | 75 | L/507/0538 |
| QET3/042 | Engineering inspection and quality control | 75 | F/507/0665 |
| QET3/046 | Advanced milling | 75 | Y/507/0364 |
| QET3/047 | Advanced turning | 75 | H/507/0366 |
| QET3/050 | Data communications and networking | 75 | D/507/0723 |
| QET3/057 | Radio and radar principles | 75 | M/507/0385 |
| QET3/062 | Panel wiring for engineering applications | 75 | D/507/0608 |

Structure

This qualification can be achieved by the apprentice by completing the mandatory units plus the required number of optional units

Optional units: (Continued)

| | | | |
|----------|---|----|------------|
| QET3/063 | Electrical power for engineering applications | 75 | H/507/0612 |
| QET3/064 | Engineering communications | 75 | A/507/0390 |
| QET3/076 | Digital systems | 75 | F/507/0391 |
| QET3/077 | Workplace improvement | 75 | J/507/0292 |
| QET3/102 | Marine Pipework Bending and Forming | 75 | F/618/4935 |
| QET3/103 | Marine Pipework Installation | 75 | J/618/4936 |

