

# Apprenticeship Standard for: Maritime Mechanical Fitter

The following standard reflects employers' requirements for the skills, knowledge and behaviours expected from someone to be competent in the job role.

## Designation of Occupation

Maritime Mechanical Fitter

## Role Profile

The Mechanical Fitter role involves working from engineering drawings, data and documentation in order to undertake the manufacture, installation, testing, commissioning, fault diagnosis, maintenance, overhaul and removal of mechanical and fluid power equipment on ships and submarines involved in defence and commercial shipping. This can include propulsion machinery, weapons, reactor and auxiliary systems (such as water, air conditioning and power generation). It requires knowledge and expertise in the use of common and specialist machine and hand tools, and the use of a variety of measuring and diagnostic equipment and processes to ensure individual components and assemblies meet the required specification. The Mechanical Fitter must comply with statutory regulations and organisational safety requirements and will be expected to work both individually and as part of a team. On completion of the Apprenticeship they will be able to work with minimum supervision, taking responsibility for the quality and accuracy of the work they undertake and will be proactive in finding solutions to problems and identifying areas to improve business processes.

## Essential Role Requirements (all in a Maritime context) -Knowledge

1. An understanding of mathematical techniques, formula and calculation applied.
2. An understanding of maritime engineering technology and principles applied in the design, build, operation and maintenance of Maritime vessels.
3. How to correctly select and use hand and mechanical tools and jigs used in the Maritime industry.
4. An understanding of the practical and theoretical requirements of maritime electrical, electronic, mechanical, electromechanical and fluid power equipment and systems used on board vessels.
5. Understanding how the improvement of processes and procedures used by a Mechanical Fitter in the Maritime Industry can be more efficient and effective.
6. Knowledge of material and fluid properties used in the mechanical area of the Maritime Industry.

## Essential Role Requirements (all in a Maritime context) -Skills

1. Comply with quality, health, safety and environmental regulations related to the Maritime Sector.
2. Read, analyse and interpret engineering data, engineering drawings and documentation used in the design, build, operation and maintenance of Maritime vessels.
3. Measure and mark out to carry out precision machining and hand fitting processes.
4. Use hand tools to cut, drill, shape and finish components to the required engineering tolerances.
5. Assembly, removal and overhaul of components, sub-assemblies and whole systems in a maritime environment.
6. Apply assembly and installation methods and techniques (such as mechanical fasteners, use of seals, gaskets, and jointing materials) on board ships and submarines.
7. Undertake testing, inspection and diagnostic activities on components, equipment and systems on board ships and submarines and making adjustments where applicable.
8. Undertake planned and corrective maintenance activities on components, equipment and systems.
9. Consider sustainability and environmental impacts when making safety, quality, and cost decisions.

## Employee Behaviours

Modern Engineering organisations require their apprentices to have a set of behaviours that will ensure success both in their role and in the overall company objectives. The required behaviours are:

- **Health, Safety and Environment:** committed to their own and their colleagues wellbeing at work and the wider environment.
- **strong work ethic:** motivated; proactive; committed
- **dependability and responsibility:** punctual; reliable;
- **positive attitude:** constructive thinking; optimism; motivated to succeed
- **team player:** able to work and interact effectively within a team and committed to equality & diversity
- **effective communication:** spoken; listening; body language; presentation; written
- **adaptability:** able to adjust to change
- **honesty and integrity:** truthful; sincere and ethical
- **self-motivation:** self-starter; able to make independent decisions & lead own professional development
- **personal commitment:** prepared to make a personal commitment to the industry

## Entry

Individual employers will set the selection criteria for their Apprenticeships. In order to optimise success candidates will typically have 4 GCSEs at Grade C or equivalent, including Mathematics, English and a Science. Employers who recruit candidates without English or Maths at Grade C or above must ensure that the candidate achieves this requirement, or an equivalent prior to the completion of the Apprenticeship.

## Duration of Apprenticeship

Typically 36 to 48 months, (timescales may reduce if an apprentice has prior relevant experience/ qualifications on entry).

## Qualifications and Development

After a period of foundation skills and technical knowledge development all apprentices will be required to achieve the following qualifications (**working titles - currently in development**)

- Level 2 Maritime Engineering (Foundation Competence)
- Level 2 Maritime Engineering (Foundation Technical Knowledge)

After a further period of skills and technical knowledge development all apprentices will be required to achieve the following qualifications (**working titles - currently in development**)

- Level 3 Maritime Engineering (Development Competence)
- Level 3 Maritime Engineering (Development Technical Knowledge)

All the qualification requirements in the foundation and development phases are mandatory outcomes for the completion and final certification of the Apprenticeship. Each qualification has a core and options approach and employers will select the most applicable pathway and unit options to meet their business requirements. Further detail can be found in the Employer Occupational Brief which is an annex to the Assessment Plan.

There will be an assessment at the end of the development phase where the apprentice will need to demonstrate full competence against the qualification outcomes for knowledge, skills and behaviours, set out in the Standard and Employer Occupational Brief. On successful completion of the employer endorsement phase (sign off) apprentices will be then be put forward to be awarded their Apprenticeship completion certificate by the recognised industry endorsed third party.

## Recognition

This Apprenticeship is recognised by the Institution of Engineering & Technology (IET) and the Institute of Mechanical Engineers (IMechE) at 'Engineering Technician' Level.

**Level and Review** – This Apprenticeship Standard is at Level 3, including mathematics at Level 3 and will be reviewed after 3 years to ensure it remains relevant and continues to meet employers' requirements and provides the basis for progression to higher qualifications and or job roles.