



Apprentice Mechatronics Maintenance Technician Level 3 – Job Description

(Job Code and Level: MFGMAI000)

Definition:

Maintenance is the use of different systems and processes to ensure that facilities, layout and machinery used to produce new and existing materials and goods run to their maximum efficiency and output. This includes total preventative maintenance, managing breakdowns and repair. An apprenticeship programme will result in a time served qualification.

Overall Purpose of the Role:

Undertake a programme of training to gain full working knowledge in all aspects of Maintenance including learning to diagnose faults leading to repair, as well as maintaining facilities process equipment. To assist and support with planned and reactive maintenance as well as liaise with internal stakeholders and subcontractors.

Duration:

Typically the duration of this apprenticeship is 36 – 48 months. This duration may be reduced for a candidate with previous relevant experience and/or someone already part qualified.

Key Responsibilities:

General and Task Management

- Use different systems and processes to ensure that facilities, layout and machinery used to produce new and existing materials and goods run to their maximum efficiency and output
- Ensure that plant and equipment perform to the required standard to facilitate production targets regarding Safety, Quality, Delivery and Cost within High Value Manufacturing environments
- Work on a broad range of activities including installation, testing, fault finding and the on-going planned maintenance of complex automated equipment

- Apply of a complex blend of skills, knowledge and occupational behaviours across the electrical, electronic, mechanical, fluid power and control systems disciplines
- Use and interpret a range of engineering data sources and supporting documentation
- Utilise lean techniques to improve efficiency & effectiveness
- Where appropriate, support installation, testing and commissioning of a wide range of equipment
- Carry out complex fault diagnosis and repair on high technology engineered systems
- Maintain mechanical equipment
- Maintain fluid & pneumatic power equipment
- Maintain electrical & electronic equipment
- Maintain process control equipment
- Minimise machinery downtime by carrying out preventative planned maintenance
- Confirm testing and subsequent smooth hand over of equipment & plant

Self Management

Modern high value manufacturing organisations require their apprentices to have a set of occupational behaviours that will ensure success both in their current and future roles and in meeting the overall company objectives. These required behaviours include:

- **Safety Mindset:** This occupation sits within an industry with a high level of safety critical activities. There has to be strict compliance and a disciplined and responsible approach to manage, mitigate and avoid risk
- **Strong work ethic:** Positive attitude, motivated by engineering; dependable, ethical, responsible and reliable
- **Respect for others:** Acts at all times with consideration to others and actively promotes equality and diversity
- **Logical approach:** Able to structure a plan and develop activities following a logical thought process, but also able to quickly “think on feet” when working through them
- **Problem solving orientation:** Identifies issues quickly, enjoys solving complex problems and applies appropriate solutions. Has a strong desire to push to ensure the true root cause of any problem is found and a solution identified which prevents further recurrence
- **Quality focus:** Follows rules, procedures and principles in ensuring work completed is fit for purpose and pays attention to detail / error checks throughout activities
- **Personal responsibility and resilience:** Motivated to succeed accountable and persistent to complete task
- **Clear communicator:** Use a variety of appropriate communication methods to give/receive information accurately, and in a timely and positive manner
- **Team player:** Not only plays own part but able to work and communicate clearly and effectively within a team and interacts/ helps others when

required. In doing so applies these skills in a respectful professional manner

- Applies Lean Manufacturing Principles: Continuous Improvement in driving effectiveness and efficiency
- Adaptability: Able to adjust to different conditions, technologies, situations and environments
- Self-Motivation: A 'self-starter' who always wants to give their best, sets themselves challenging targets, can make their own decisions.
- Willingness to learn: wants to drive their own continuous professional development
- Commitment: Able to commit to the beliefs, goals and standards of their own employer and to the wider industry and its professional standards

Skills and Attributes:

The apprentice will need to develop a solid grasp of the core job skills and then apply them in the workplace in a logical and systematic approach. These skills will not only allow the apprentice to demonstrate that they have the required manual dexterity to do their current role but their competencies are transferable and can be built upon over time, as the technology involved continues to rapidly advance. As a core the technician needs to have a solid grasp of:

- Statutory regulations and how to comply with stringent organisational safety requirements
- How to use and interpret a range of engineering data sources and supporting documentation
- Key Performance Indicators, utilising lean techniques to improve efficiency and effectiveness
- Where appropriate, how to support installation, testing and commissioning a wide range of equipment
- How to carry out complex fault diagnosis and repair on high technology engineered systems:
 - Maintaining mechanical equipment
 - Maintaining fluid and pneumatic power equipment
 - Maintaining electrical and electronic equipment
 - Maintaining process control equipment
- How to minimise machinery downtime by carrying out preventative planned maintenance
- Confirmation testing and subsequent smooth hand over of equipment and plant

The academic learning that is required to underpin the above vocational skills will allow the apprentice to demonstrate a thorough breadth and depth of understanding of relevant maintenance principles, appropriate to and in the context of their company's needs. As a core the technician needs to cover around 720 academic Guided Learning Hours in order to have a solid grasp of:

- Analytical and Scientific Methods for Engineers
- Project Design, Implementation and Evaluation
- Instrumentation and Control Principles & Applications
- Mathematics for Technicians
- Mechanical, Electrical, Electronic and Digital Principles & Applications
- Quality Assurance Principles Within Mechatronic Systems
- Applications of Pneumatics and Hydraulics
- Health, Safety and Risk Assessment in Engineering
- Plant and Process Principles & Applications
- Condition Monitoring and Fault Diagnosis
- Business Improvement Techniques

Qualifications and Experience Levels:

- Individual employers will set the selection criteria for their Apprenticeships. In order to optimise success, candidates will typically possess 4 GCSEs at Grade C or equivalent, including Mathematics, English and a Science/Technical GCSE. Apprentices without level 2 Maths and English need to achieve this prior to completion of their Apprenticeship
- Advanced Apprenticeships will generally be structured over 4 years, combining training with a local College and work based learning and experience

Further Information:

<https://www.gov.uk/government/publications/apprenticeship-standard-mechatronics-maintenance-technician>

Example roles this job description may cover:

- Junior Maintenance Technician