

# National Apprenticeship - Occupational Profile

**Apprenticeship Title** Manufacturing Technician

**NFQ Level** 6

**Duration** 2 Years

## Typical tasks/ responsibilities

The Manufacturing Technician provides technical support function for manufacturing operations, including troubleshooting equipment and process issues, validation and qualification activities of the manufacturing site through the creation and support of necessary validation documentation for equipment, process and product release.

The manufacturing technician will work both autonomously and cross-functionally with Production, Operations, Engineering Support, Quality, Facilities, and Safety to ensure that the engineering activities/projects are completed as per defined project schedule.

The manufacturing technician will also work in establishing and coordinating corrective/preventive maintenance activities for Production/Operations equipment within the manufacturing site.

**On successful completion, the Manufacturing Technician will have:**

## Knowledge

Core knowledge listed:

- Quality management systems within a regulated environment (GMP)
- Raw materials, production processes, costs, and other techniques for maximizing the effective manufacturing
- Root Cause Analysis, Problem Solving, implementing Corrective and Preventive Actions (CAPA)
- Continuous Improvement in Manufacturing (Lean manufacturing)
- Mechanics and Properties of Materials
- Mechanics and Dynamics of Machines
- Industrial Automation
- Engineering Science
- Electrical Science
- Mechanical Drawing Interpretation
- Cleanroom operations
- Metrology
- Perform routine calibration of equipment

**Specialist Skills (Technical):**

- Use engineering principles to make data driven decisions and apply technical judgment to product design and to continuously improve manufacturing processes
- Computer Aided Design (CAD) software to create advanced 3D models and use standards parts libraries for the selection of appropriate components required for use in manufacturing and assembly processes
- Analyse basic pneumatic/hydraulic manufacturing applications and develop automated solutions using PLC (programmable logic control) technology
- Concepts, processes and legislation for Risk Management and Health and Safety management
- Perform lean manufacturing analysis (Value Stream mapping, Overall Equipment Effectiveness, Take Time Calculation, Process Throughput measurement, 5S) to identify areas for improvement, and solve problems
- Analyse, develop and implement preventive actions which proactively resolve product, process and systems issues
- Complete industry documentation aligned to GMP (Good Manufacturing Practice) standards
- Partner with project team members to create, execute and document activities associated with equipment validation and release
- Drive the troubleshooting and corrective action effort for any process issues
- Quality assurance, safety compliance systems and quality management principles needed in manufacturing and service organisations
- Configure and operate manual, automated and ancillary production equipment required for the manufacturing process

**Soft Skills:**

- Time management skills;
- Creative problem solving and work as an effective group member
- Academic writing and referencing sources of information
- Proficient in both written and oral communication skills
- Apply the basic principles of critical thinking / problem solving

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## Competencies

- Ethics
- Communications
- Adaptability
- Teamwork
- Ability to work independently
- Reading Comprehension
- Problem solving
- Critical thinking
- Time management
- Report Writing
- Mathematics and Statistics
- Health, Safety and Environmental Awareness
- The ability for Continuous Professional Development
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## Industry/industries served by the apprenticeship

Medical Devices Sector, Diagnostic Sector, Engineering Sector