



ROLE PROFILE:

Machinists in the Advanced Manufacturing Engineering sector are predominantly involved in highly skilled, complex and precision work, machining components from specialist materials using conventional and/or CNC machine tools such as centre lathes, vertical and horizontal milling machines, horizontal and cylindrical grinding machines, electro discharge machines, single and multi-axis CNC machine tool centres. They will be expected to be able to be

set up, operate and adjust/edit equipment settings as applicable to the machine tool being used. When using CNC equipment they will be expected to be able to produce, prove and/or edit programmes. During and on completion of the machining operations they will be expected to measure and check the components being produced and make adjustments to the equipment/programme to ensure components meet the required specification.

TOPICS COVERED:

Working in an Engineering Environment

Health & Safety

Using & Communicating Technical Information

Advanced Manufacturing Engineering Techniques

Engineering Project Planning

Engineering Mathematics & Science Principles

Business Improvement Techniques

Principles and use of Lathes and Turning Operations

Principles and use of Milling Machines

Computer Aided Design

Principles and use of CNC Machining Centres

Engineering Inspection & Quality Control

Engineering Materials

Engineering Design

INSPIRING ENGINEERS

FOR A CHANGING WORLD



SPECIFIC SPECIALIST KNOWLEDGE

Understand mathematical techniques, formula and calculation involved in the machining processes such as speeds and feeds, calculating angles/tapers, material removal.

Understand the practical and theoretical uses of the machines used, and their applications.

Understand the work-holding devices, cutting tools, and setting up procedures, in adequate depth to provide a sound basis for carrying out the activities, correcting faults and ensuring the work output is to the required specification.

SPECIFIC SPECIALIST SKILLS

Read and interpret relevant data and documentation used to produce machined components.

Determine the most efficient and effective approach to machine the component using a range of tools, machining processes and techniques.

Select and set up the correct tooling and workholding devices.

Set and adjust the machine operating parameters to produce the work pieces to the required specification. This will involve settings feeds and speeds for roughing and finishing operations.

Select and use a range of measuring and testing equipment to check components are to the required quality and accuracy.

Produce complex and specialist components as a one off test and trial work piece and/or producing components in small or large batches.

Contribute to the business by identifying possible opportunities for improving work practices, processes and/or procedures.