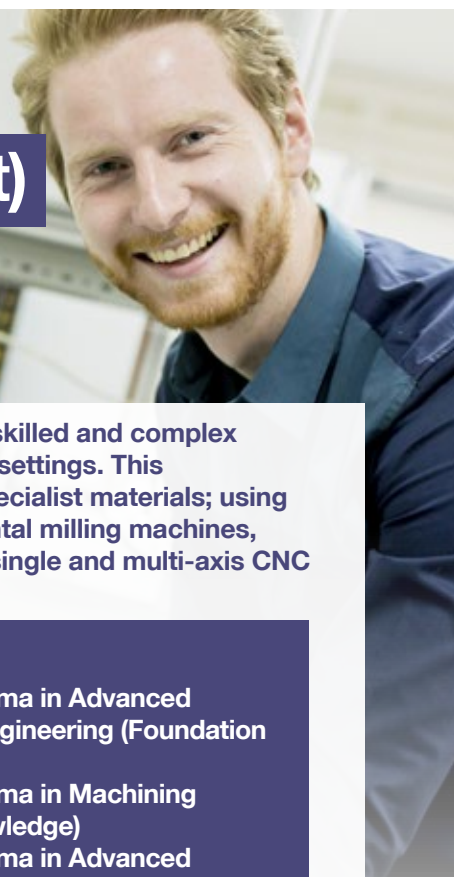




For **new** or **existing** staff

Engineering Technician (Machinist) Apprenticeship Level 3

Delivered by Gloucestershire College



Machinists in the Advanced Manufacturing Engineering sector carry out highly skilled and complex precision work, including the setting-up, operating, and adjusting of equipment settings. This apprenticeship provides valuable experience in machining components from specialist materials; using conventional and CNC machine tools such as centre lathes, vertical and horizontal milling machines, horizontal and cylindrical grinding machines, electro-discharge machines, and single and multi-axis CNC machine tools.

Delivery model and duration:

Apprentices will attend college for two days per week over two years. Training, assessments and observations will also be completed in the workplace. This can be supported by some remote delivery if required.

Duration: 42 months

Ideal for:

- Machinist
- CNC Machinist
- Programmer/Machinist
- CNC Setter/Operator

The apprenticeship will cover the following core areas:

- Understanding mathematical techniques, formula and calculation involved in the machining processes such as speeds and feeds, calculating angles/tapers, material removal
- Understanding 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
- Producing complex and specialist components as a one-off test and trial work piece and/or producing components in small or large batches
- Contributing to the business by identifying possible opportunities for improving working practices, processes and/or procedures

Benefits to business

- Increase future productivity
- Keep the business up to date with the latest knowledge and innovative practice
- Deliver on the job training to employees tailored to business needs
- Develop and retain existing staff by offering support and a fresh perspective

Qualification:

- EAL Level 2 Diploma in Advanced Manufacturing Engineering (Foundation Competence)
- EAL Level 2 Diploma in Machining (Foundation Knowledge)
- EAL Level 3 Diploma in Advanced Manufacturing Engineering - Machining (Development Competence)
- EAL Level 3 Diploma in Machining (Development Knowledge)

➤ **Completers may want to progress to** Engineering Apprenticeship Level 4 or HNC

Entry Criteria:

- GCSEs in English and maths grade 9 - 4 or A* - C

Benefits for learners

- Gain high level technical knowledge and practical experience by combining on the job training with academic study
- Gain a valuable, national-recognised qualification
- Fill skills gaps in businesses



Why work with Gloucestershire College

We will work in partnership with you to help you achieve your business objectives by providing exceptional apprenticeship programmes, a comprehensive range of staff training and skills development courses and access to an unrivalled resource of motivated and work ready employees.

☎ 01452 563400

✉ business.hub@gloscol.ac.uk

🌐 www.gloscol.ac.uk/apprenticeships



gloucestershire college

Engineering Technician (Machinist)

Apprenticeship Level 3

Delivered by Gloucestershire College

End Point Assessment

The End Point Assessment will test the entire Standard, and be undertaken as follows:

- An occupational Competence Validation Interview (Viva) drawing from a portfolio of evidence of occupational competence
- Professional competence assessment undertaken by independent assessor(s)
- Final employer endorsement of occupational and professional competence and overall completion of the apprenticeship

Components

- EAL Level 2 Diploma in Advanced Manufacturing Engineering
- EAL Level 2 Diploma in Machining
- EAL Level 3 Diploma in Advanced Manufacturing Engineering - Machining
- EAL Level 3 Diploma in Machining
- Functional Skills English at Level 2

Knowledge

Understanding the importance of complying with statutory, quality, organisational and health and safety regulations

Understanding of general engineering/manufacturing mathematical and scientific principles, methods, techniques, graphical expressions, symbols formulae and calculations used by engineering technicians

Understanding the structure, properties and characteristics of common materials used in the sector

Understanding the typical problems that may arise within their normal work activities/environment

Understanding approved diagnostic methods and techniques used to help solve engineering/manufacturing problems

Understanding the importance of only using current approved processes, procedures, documentation and the potential implications for the organisation if this is not adhered to

Understanding and interpreting relevant engineering/manufacturing data and documentation in order to complete their job role

Understanding the different roles and functions in the organisation and how they interact

Understanding why it is important for an organisation to continually review their processes and procedures

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

Understanding the practical and theoretical uses of the machines used, and their applications

Understanding 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

Skills

Obtaining, checking and using the appropriate documentation (such as job instructions, drawings, quality control documentation)

Working safely at all times, complying with health, safety and environmental legislation, regulations and organisational requirements

Planning and where applicable obtaining all the resources required to undertake the work activity

Undertaking the work activity using the correct processes, procedures and equipment

Carrying out the required checks (such as quality, compliance or testing) using the correct procedures, processes and/or equipment

Dealing promptly and effectively with engineering/manufacturing problems within the limits of their responsibility using approved diagnostic methods and techniques and report those which cannot be resolved to the appropriate personnel

Completing any required documentation using the defined recording systems at the appropriate stages of the work activity

Restoring the work area on completion of the activity and where applicable return any resources and consumables to the appropriate location

Reading and interpreting relevant data and documentation used to produce machined components

Determining the most efficient and effective approach to machine the component using a range of tools, machining process and Techniques

Selecting and setting up the correct tooling and work holding devices

Setting and adjusting the machine operating parameters to produce the work pieces to the required specification.

Selecting and using 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

Contributing to the business by identifying possible opportunities for improving working practices, processes and/or procedures

 01452 563400

 business.hub@gloscol.ac.uk

 www.gloscol.ac.uk/apprenticeships



gloucestershire college