University of Central Lancashire
Training 2000

INFORMATION FOR LEARNERS

Engineering Fitter Apprenticeship

Level 3

Engineering Fitters produce complex high value, low volume components or assemblies in full or part, using machines, equipment or systems, to the required specification. Fitters may typically have a mechanical, electrical, electronic, control systems, pipe fitting or instrumentation bias or operate across multiple disciplines depending on the type of assembly. They will produce or re-furbish components and will interpret drawings/ specifications and plan their work, for example ensuring they have the right tools, equipment and resources to complete the task to the required specification. Fitters are required to check their work against quality standards and make adjustments as required based on their knowledge.

Apprenticeships

European Union
European Social Fund

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Engineering Fitter Level 3

Apprenticeship information

Duration

Up to 4 years

Year 1 - x3 four week blocks

Year 2 - 1 day per week

Year 3-4 - assessment in your workplace

Entry requirements

A minimum of four GCSEs at grade 4 (C) or above including English and Maths. Other equivalent qualifications are acceptable. You may have to complete your English and Maths Functional Skills depending on your GCSE grades.

Where will I study?

Training 2000 Blackburn

Our Apprenticeship includes:

- Training 2000 registration and pass
- Structured delivery programme
- Assessor visits and reviews in your workplace
- Synoptic / end point assessment

Pathways available within this qualification

- Control and systems
- Electrical
- Electronic
- Instrumentation
- Mechanical

What you'll learn

Key knowledge

- Materials used in components/assemblies, for example; mild steel, aluminium, composites, copper etc. Their use and application considerations, for example machinability, hardness, conductivity, cost, availability, compatibility
- Principles of design and operation, for example; design for cost, minimising waste, productivity (speed), health and safety, reverse engineering
- Manufacturing and assembly processes for example; filing, sawing, scraping, drilling, soldering, bolting, wire cutting, threading etc
- Safe use of tools and equipment (hand and power tools); right tool for the job, requirements for machinery checks, adjustments, operation and shut down
- Component/assembly specifications, for example; electrical loading, load charts, torque settings, tolerances. What they are and how to use them
- Techniques for measuring, marking, cutting and drilling materials to the required size and shape, accurately, safely and economically and manufacturing processes
- Engineering mathematical and scientific principles; methods, techniques, graphical expressions, symbols, formulae and calculations
- Engineering data, for example; electrical readings, vibration, speed and calibration. What they are and how to interpret and use
- Component/assembly documentation. For example, bill of materials, standard operating procedures, inspection records, assembly instructions, electrical/pneumatic/hydraulic circuit diagrams. What they are and how to interpret and use
- Quality standards for components/assembly for example, drawing, calibration of equipment, materials specification. How to ensure they have been met and assured. Application of ISO9001 (Quality Management Standard) in the workplace
- Health and safety, including Health & Safety at Work Act, personal protective equipment (PPE), manual handling, Control of Substances Hazardous to Health

(COSHH), Provision and Use of Work Equipment Regulations (PUWER), Noise at Work Regulations, Electricity at Work regulations, risk assessments; how they must be applied in the workplace
- Environmental considerations; safe disposal of waste, minimizing waste (re-use and re-cycle), energy efficiency.
- Who they need to communicate with and when, and communication techniques - verbal and written
- Planning techniques – resources, tools, equipment, people; time management
- Component/assembly quality checks for example; checking tolerances, threads, voltages. Types of faults that occur and problem solving techniques, for example; cause and effect, 5 Whys, flow process analysis etc
- Improvement techniques, for example; 5s techniques, problem solving techniques, value stream mapping, kaizen, contributing to effective team working, Total Productive Maintenance
- Fitters' role in wider operation. Limits of autonomy; reporting channels. Other functions that fitters could interact with for example health & safety, quality assurance, business improvement/excellence, their purpose and interdependencies. Internal and external customers
- Commercial considerations including contractual arrangements (for example penalty clauses, targets). How the role contributes to commercial operations

Key skills

- Reading, interpreting and understanding the component/assembly specification, diagrams, drawings and work instructions
- Planning component/assembly task – materials, tools and equipment
- Preparing work area for component/assembly task; sourcing required resources, tools/equipment
- Carry out relevant planning and preparation activities before commencing work activity and know how to source required resources and interpret detailed drawings, specifications and job instructions
- Checking tools during and after task completion; identifying and reporting defects
- Measuring and testing, checking/inspecting component/assembly for example; use of micrometers, verniers, multimeters, volt meter
- Problem solving; analysing the issue and fixing the issue where appropriate
- Applying improvement techniques; recommending/ implementing solutions where appropriate
- Communicating with colleagues and/or customers (internal or external)Completing component/ assembly documentation for example job instructions, drawings, quality control documentation
- Reporting work outcomes and/or issues
- Restoring the work area on completion of the activity; returning any resources and consumables to the appropriate location and house-keeping
- Disposing of waste in accordance with waste streams; re-cycling/re-using where appropriate
- Operating within limits of responsibility
- Operating in line with quality, health & safety and environmental policy and procedures; identifying risks and hazards and identifying control measure where applicable

Key behaviours

- Takes personal responsibility and resilient. For example health and safety first attitude, disciplined and responsible approach to risk, works diligently regardless of how much they are being supervised, accepts responsibility for managing their own time and workload and stays motivated and committed when facing challenges
- Works effectively in teams. For example integrates with the team, supports other people, considers implications of their own actions on other people and the business whilst working effectively to get the task completed
- Effective communicator and personable. For example open and honest communicator; communicates clearly using appropriate methods, listens well to others and have a positive, respectful attitude, adjusts approach to take account of equality and diversity considerations
- Focuses on quality and problem solving. For example follows instructions and guidance, demonstrates attention to detail, follows a logical approach to problem solving and seeks opportunities to improve quality, speed and efficiency
- Committed to continuous personal development. For example reflects on skills, knowledge and behaviours and seeks opportunities to develop, adapts to different situations, environments or technologies and has a positive attitude to feedback and advice

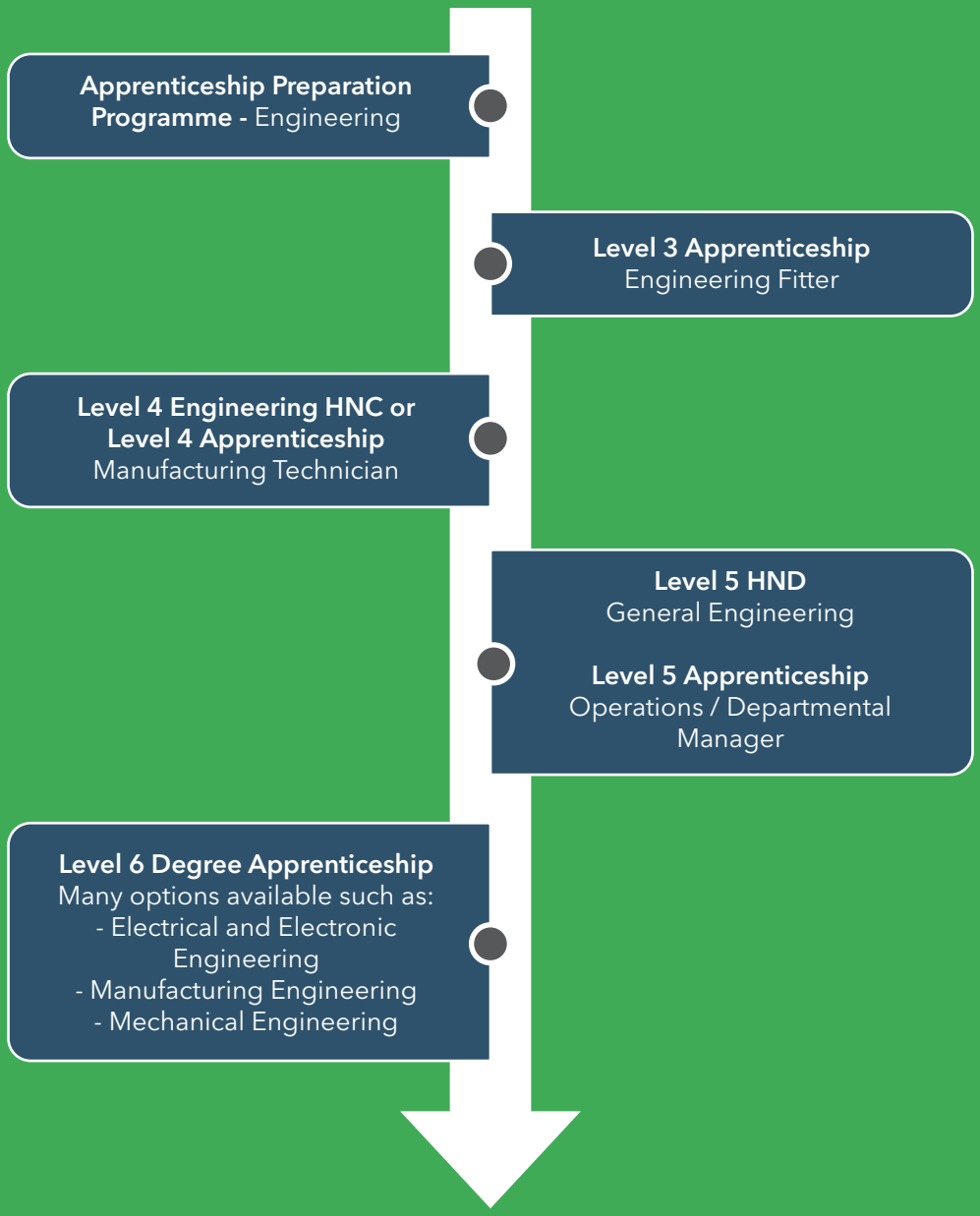
How you'll be assessed?

At the end of your Apprenticeship you'll go through an end-point assessment (EPA) and be graded based on:

1. Project report with questioning
2. Multiple choice test
3. Professional discussion based on portfolio

Your Apprenticeship career path

Below is an example career path showing how you can earn, learn and study up to Degree level with an Apprenticeship. Training 2000 are part of the University of Central Lancashire which makes it easier than ever to progress on to a Degree Apprenticeship.



Careers

An Apprenticeship in Engineering can take you in many directions from an Aerospace Engineer to Nuclear engineer. You could even go on to own your own business.

Interested? Apply now

www.training2000.co.uk
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UCLan