edexcel Approved Centre

ACC Association of Colleges

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

Electrical and Electronic Engineering Apprenticeship Level 3

Delivered by Gloucestershire College

This apprenticeship framework is aimed at apprentices progressing from a level 2 apprenticeship. Apprentices will learn new skills as well as refining their existing practical skills; they will develop higher-level skills with technical knowledge. This apprenticeship has been developed in response to the increasing demand for highly skilled employees in a wide range of organisations and to upskill the existing workforce to meet skills priorities.

Delivery model and duration:

Workplace delivery with 1 day per week in college

Duration: 42 months

Ideal for:

- Electrical Design Engineer
- Maintenance Engineer
- Service Engineer
- Electrical Wireman/Fitter

The apprenticeship will cover the following core areas:

- Health and safety regulations
- Structure, properties and characteristics of materials
- Processes, procedures and equipment
- Documentation
- Communication and interpersonal skills
- Continuous personal development

Benefits to business

- Apprenticeships provide skilled workers for the future
- Apprenticeships increase staff loyalty and retention
- Apprenticeships increase a company's productivity
- Apprentices can revitalise a company

Qualification:

BTEC Diploma in Electrical/Electronic Engineering
NVQ Options – select one of the following options:
Extended Diploma in Engineering Technical Support
Extended Diploma in Electrical and Electronic Engineering

» **Completers may want to progress to** A HNC Diploma

Entry Criteria:

- Successful completion of the level 2 apprenticeship
- Five GCSEs grade A-C or 9-5 including English, maths and a science/technical based subject

Benefits for learners

- Apprentices are paid at least the apprenticeship minimum wage with many employers paying more
- Gain a nationally recognised qualification that can lead to higher education as well as full time employment
- Gain genuine, consistent work experience
- Getting into employment earlier means there`s potential for you to progress in your career quickly

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

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gloucestershire college

Learning that works.

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Components

- Level 2 English Functional Skills
- Level 2 Maths Functional Skills
- Employment Rights and Responsibilities
- Personal Learning and Thinking Skills

Unit	Overview
Health and Safety in the Engineering workplace	This unit will give learners an understanding of hazards and risks associated with health, safety and welfare in an engineering workplace, the associated legislation and regulations and of their roles in complying with the related obligations. Learners will also be required to undertake full risk assessments and to appreciate the significant risks encountered in the workplace and the measures taken to deal with them. They will also study the principles of reporting accidents and incidents, again within a legal context
Electrical and Electronic Principles	The unit starts by developing and extending learners` understanding of fundamental electrical and electronic principles through analysis of simple direct current circuits. Learners are then taken through the various properties and parameters associated with capacitance and inductance, before firmly considering the application of single-phase alternating current theory.
Mathematics for Technicians	The unit will develop learners 'knowledge and understanding of algebraic methods, from a look at the use of indices in engineering to the use of the algebraic formula for solving quadratic equations, the introduction of the radian as another method of angle measurement, the shape of the trigonometric ratios and the use of standard formulae to solve surface areas and volumes of regular solids, to represent statistical data in a variety of ways and calculate the mean, median and mod, and a basic introduction to the elementary calculus
Communications for Engineering Technicians	The unit gives learners the opportunity to apply the wide range of communication methods used within engineering. These methods include visual representation, verbal and written skills, obtaining and using information and the use of information and communications technology. The unit will also introduce learners to a variety of skills and techniques to obtain and use information, for example the presentation of technical reports, business and technical data and the use of visual aids for presentations.
Engineering Project	This unit aims to enable learners to specify, plan and implement an engineering project and present its outcome. The unit aims to integrate the knowledge and skills learners have gained throughout their programme of study, into a major piece of work that reflects the type of performance expected of an engineering technician. The project is intended to develop the learner's ability to identify and plan a course of action and follow this through to produce a viable solution/outcome to an agreed specification and timescale. Throughout the project learners will need to apply the technical skills developed in the other units in the qualification.
Electronic Measurement and Testing	This unit will give learners an understanding of a variety of electronic measurement equipment such as voltmeters, ammeters, analogue/digital multimeters and oscilloscopes. The unit also examines a range of electronic test equipment such as signal generators, digital counter/frequency meter, alternating current bridge, logic probe, logic pulser and current tracer. Learners will develop an understanding of the function, features and characteristics of electronic testing and measurements in a wide range of electronic engineering applications. This will include selecting, connecting and operating different types of test equipment and applying measurement techniques

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