

Your insight into BS 7671 www.theiet.org/wm

City & Guild courses: an introduction

Around twenty years ago, qualifications in the electrical industry were simple: you passed your 236, perhaps went on to complete the 'C' Course and occasionally updated your knowledge of the Wiring Regulations by passing a 2380. Today there is a whole range of qualifications available from City & Guilds, both to train those wishing to become electricians and for those seeking Continued Professional Development (CPD). So, what are these qualifications and what do they mean?

Peter Tanner, Lead Consultant (Electrotechnical) for City & Guilds, gives us an overview of the City & Guild courses.

Before we look at the qualifications, we need to understand what 'Levels' mean. Qualifications are levelled to allow for progression and to demonstrate a particular competency. All qualifications are levelled 1-8, however, the majority of qualifications in the electrical industry focus on levels 1-4.

Level 1 qualification

• Basic knowledge and skills, and the ability to apply skills with guidance and supervision.

Level 2 qualification

• Good knowledge and understanding, and the ability to perform tasks with some guidance and supervision.

Level 3 qualification

• Detailed knowledge and understanding, and the ability to perform and apply skills independently. Has the ability to supervise others.

Level 4 qualification

• Specialist knowledge and a high level of understanding in a particular area of work. Has the ability to manage and develop others.

Now we have looked at levels, let's look at the particular qualifications for those entering the industry, those who wish to top up their skills and knowledge with CPD qualifications or those who need to consolidate older qualifications to become recognised in the industry.

Trainee Qualifications

These qualifications are designed for those entering the industry with very little or no experience or prior qualifications related to the industry.

2357 (Level 3)

This is the qualification that currently allows the learner to gain approval as an electrician. It is a National Vocational Qualification (NVQ) and is part of the current recognised apprenticeship scheme.



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The qualification is made up of knowledge and performance units that are built around the National Occupation Standards (NOS) for electricians. The knowledge units are assessed by a range of assignments, written examinations and online multiple choice tests at a college or training centre. The performance units are assessed on site in the real working environment. Although a trainee does not need to be employed to achieve this qualification, obtaining evidence for the performance units on site is very difficult to achieve if the trainee is unemployed. The qualification also includes the three-day Achievement Measurement 2 assessment, which apprentices must complete at an independent assessment centre managed by National Electrotechnical Training (NET).

As part of the apprenticeship framework requirements, 16-19 year-old apprentices who didn't obtain Grade C and above in their relevant GCSEs must also achieve a certain standard in English, Maths and Information Technology (IT). The tests for these are known as Functional Skills Tests.

2357 usually take three to four years to complete. Successful candidates are eligible for Joint Industry Board (JIB) Gold Card Status.



2365 (Levels 2 and 3)

This is known as the 'Tech Cert' and is intended for those not currently employed within the industry but who wish to be in the future. It is a knowledge-only qualification with limited 'off-site' practical assessment. The qualification is delivered at a college or training centre but students must, at the start of the course, sign a declaration that they understand that this qualification does not allow them to become qualified electricians. Students who gain employment may transfer their knowledge skills to 2357 and complete the performance units of the NVQ on site, as well as an AM2, to become qualified electricians. This qualification typically takes one year to complete each level.

The reason why this qualification is split into two levels is because a number of students may complete one year of study at level 2, consider level 3 too difficult, but still find employment within industry using their good level of skills and knowledge.

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7202 (Level 1)

This gualification is intended for those who are not too sure what career direction to take. It includes elements of building services, such as plumbing, and has a number of units that can be mixed and matched to suit the learner. It gives students a basic understanding of industry to allow insight into, and progression onto, a pathway that is eventually chosen. It can be achieved in less than one year but is not an entry requirement for 2365 or 2357. Students who know their intended career path can enter straight into those qualifications depending on their employment status.

Consolidation-type qualifications

These qualifications are intended for those working in the industry but need formal recognition by consolidating previous qualifications.

2356 (Level 3)

This is a performance-only NVQ intended for those who have completed an old 'Tech Cert' qualification, such as 2360 or 2330, and have been working in the industry without full recognition for a length of time. It is currently managed by the JIB. Those wanting recognition must register for this scheme through the JIB, who will carry out an audit of previously achieved gualifications. There is no set time for this gualification as it depends on the candidate's prior knowledge and experience.

2397 (Level 3)

This is known as the 'Qualified Supervisor' gualification and leads to recognition by the JIB for Gold Card Domestic Electrician status. It is intended for those who have experience working in the domestic installation environment, but little in the form of formal qualifications. By completing a number of combined knowledge and performance units, candidates can demonstrate a level of competency, and can consolidate qualifications that were previously obtained either in part or in full, in order to become fully recognised as a domestic electrician. There is no set time for this qualification as it depends on the candidate's prior knowledge and experience.



Continued Professional Development (CPD) qualifications

These are qualifications known as 'short courses' intended to enhance, develop and validate industry skills.

2396 (Level 4)

This course is for designers of electrical installations for the purpose of enhancing their skills. It is intended to give designers an insight into installation design. This will include not only what is required by BS 7671 but why these requirements are necessary. It is assessed in two parts: a full-scale design project and a three-hour written examination. This course is typically taught over five days.

2394 and 2395 (Level 3)

These two qualifications replaced 2391 (Inspection and Testing) following consultation with industry bodies who were voicing concerns. As a result, 2391 was split into 2394 (Initial Verification) and 2395 (Periodic Inspection and Testing) for the following reasons:

- apprentices who complete a 2357 NVQ have been rigorously assessed for initial verifications, so why should they be assessed again in this discipline.
- the increasing requirements within BS 7671 led to the need for defined skills in both initial verification and periodic inspection and testing.
- the increasing requirements for the Certification and Reporting for inspection and testing meant that the time requirements for a single short course became unreasonable.
- industry voiced concerns that techniques used for periodic sampling were being incorrectly employed during initial verifications.
- greater emphasis was needed on the management of periodic inspections, such as defining and setting 'extents and limitations' as well as responsibilities of persons.
- many electricians or contracting organisations were specialising in either new works (initial verification) or maintenance-based work (periodic) and wanted those specific skills.

City & Guilds has come under some criticism of late regarding the methods used to assess these qualifications and, in particular, the low pass rates for the closed book written examination. We have undertaken a lot of work to improve the language used within the examinations and have seen a substantial increase in pass rates as a result. We do, however, still believe that the examination should remain both closed book and written.

Other parts of the assessment, such as the practical assessment, is, quite rightly, open book; but we strongly believe that the examination remains closed book as inspectors need to have a good level of understanding of the requirements in BS 7671 for alarm bells to ring during an inspection. Any facts, figures or values from BS 7671 that are required in the exam are provided in the paper. Awarding Bodies such as City & Guilds are required to assess qualifications at the level and criteria of the unit. Consequently, if unit criteria require candidates to 'explain' or 'describe', a written examination is the only suitable way to assess this requirement. Other Awarding Organisations use different methods to assess this, such as multiple-choice, but we do not feel this proves the ability to describe, explain and report on situations.

In today's world a lot of responsibility lies with issuing certificates and reports, which requires inspectors to have the ability to write reports that contain good technical content.

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These courses are typically taught over five days each or seven when taking both at the same time.



2382 (also known as the 17th Edition Course) (Level 3)

This is an open book, online, multiple-choice examination on BS 7671: Requirements of Electrical Installations, which tests the ability to find and understand information in BS 7671. This course is typically taught over three days.



2377 (Level 3)

This is an open book, online, multiple-choice examination and practical demonstration on Portable Appliance Testing (PAT) and is based on the IET Code of Practice for the Inspection and Testing of Electrical Equipment. This qualification has two parts depending on the candidate's role. One is for those inspecting equipment and the other is for those involved in the management of equipment registers. This course is typically taught over two days.

2919 (Level 3)

This is an open book, online, multiple-choice examination and practical demonstration on the installation of electric vehicle charging points. It is based on the IET Code of Practice for Electric Vehicle Charging Equipment Installation. This qualification has two parts. One is for installing in domestic locations and the other is for on-street and commercial locations. Each unit is typically taught over five days.

2393 (Level 3)

This is a qualification based on the building regulations and is an open book, online, multiplechoice assessment. It is intended to demonstrate that candidates have an understanding of

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the different parts of the building regulations and their impact on work covered under Part P. This course is typically taught over one day.

2392 (Level 2)

This qualification is intended for those who wish to gain confidence and understanding in the field of inspection and testing but perhaps lack experience. It is not an industry-recognised qualification, which is why it is at level 2. It does, however, give candidates confidence and knowledge when used as a stepping stone to 2394 or 2395. This course is typically taught over four days.

What is coming in the future?

Trailblazers

The electrical sector has been chosen as one of the industries to pilot Trailblazers, which is a new approach to Apprenticeship Frameworks. This new approach is intended to give employers much more control over the development and implementation of apprenticeships. The new scheme for our industry is currently under development and is due to roll out within the next year. More details on this scheme will be available soon.

TechBac

The City & Guilds Level 2 (Technical) Award in an Introduction to Electrical Installation Skills is for 14-16 year old learners. It is equivalent to one GCSE (120 Guided Learning Hours (GHL))) and will be on the performance tables from 2017.

It is for learners at school who want to combine general education with learning theory and practical activities related to the Electrical Installation industry.

Learners will study both practical and theoretical aspects of the subject. The qualification includes these mandatory subjects:

- structure of the construction industry;
- environmental and sustainability measures in the construction industry; and
- electrical installation wiring and enclosures.

Learners will gain a broad understanding of the Building Services Engineering sector, developing academic and study skills through practical tasks and transferrable skills, which will allow progression into a broad range of next steps.

These skills and knowledge will be of value in further studies, such as an apprenticeship, a Level 2 or Level 3 full-time specialist qualification, or A levels, which can help learners to progress to higher education.

For more information about City & Guilds, please see <u>http://www.cityandguilds.com/</u>. For book purchases, you can buy directly from the IET's webshop: <u>http://electrical.theiet.org/books/exam-guides/</u>.