

City & Guilds Certificate in Electrical Testing and Verification of Electrical Installations (Ireland) (2407)

Qualification handbook for centres



www.cityandguilds.com
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Version 1.0

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Contents

1	Introduction to the qualification	5
2	Centre requirements	6
3	Units	8
Unit 301	Electrical testing and verification of electrical installations	9
4	Course design and delivery	13
Appendix 1	Sources of general information	15

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1 Introduction to the qualification

This document contains the information that centres need to offer the following qualification:

Qualification title	Certificate in Electrical Testing and Verification of Electrical Equipment (Ireland)
City & Guilds qualification number	2407-01
Last registration date	30/04/2017
Last certification date	30/04/2020

This qualification is aimed at those with responsibilities to perform or technically administrate initial verifications or periodic inspection, testing and certification of electrical installations.

The qualification relates to the Inspection and Testing of electrical installations as prescribed through regulatory bodies via CERs Criteria Document on electrical safety regulatory framework which endorses the National Rules for Electrical Installations for Ireland (current edition).

Qualification structure

To achieve the Certificate in Electrical Testing and Verification of Electrical Installations, learners must achieve the mandatory unit.

City & Guilds unit number	Unit title	Mandatory/ optional for full qualification
Unit 301	Electrical Testing and Verification of Electrical Installations	Mandatory

Qualification support materials

City & Guilds also provides the following publications and resources specifically for this qualification:

Description	How to access
Assessment Pack	www.cityandguilds.com

2 Centre requirements

This section outlines the approval processes for centres to offer this qualification and any resources that centres will need in place to offer the qualifications including qualification-specific requirements for centre staff.

Centres already offering City & Guilds qualifications in this subject area

Existing centres wishing to offer this qualification must use the **standard** Qualification Approval Process.

1.1 Resource requirements

CERs Criteria Document on electrical safety regulatory framework

The Criteria Document is fundamental to the operation of the electrical safety regulatory framework. It sets out the rules and responsibilities of stakeholders involved in electrical safety including the Safety Supervisory Bodies and Registered Electrical Contractors, whilst also outlining the disciplinary and appeals process for Registered Electrical Contractors.

Controlled Electrical Works Paper

Under the 2006 Energy (Miscellaneous Provisions) Act, the legislation permits the certification of Controlled Works under the following circumstances:

- electrical works undertaken by a Registered Electrical Contractor that are self-certified through the issuance of a Certificate
- electrical works undertaken by a non-Registered Electrical Contractors that are examined and certified by an Inspector of a Safety Supervisory Body (ie ECSSAI or RECI).

Restricted Electrical Works Paper

Restricted Electrical Works under the 2006 Act are defined as electrical activities that can only be carried out and certified by a Registered Electrical Contractor. Therefore any party carrying out Restricted Electrical Works, who is unregistered, will be committing an offence.

National Rules for Electrical Installations

This document will be required by learners in order to carry out this qualification. Learners and centres **must** ensure that they are working from the current version of this document. All assessments will be based on the most up to date version of the document.

Physical resources and site agreements

It is acceptable for centres to use specially designated areas within a centre to assess. The equipment, systems and machinery must meet the specification standards and be capable of being used under normal working conditions.

Specific equipment will be needed in order to carry out the practical assignment. Details of this equipment can be found in the Assignment Pack.

Human resources

Staff delivering this qualification must be able to demonstrate that they meet the following occupational expertise requirements. They should:

- be technically competent in the area for which they are delivering training and/or have experience of providing training. This knowledge must be at least to the same level as the training being delivered
- have recent relevant experience in the specific area they will be assessing
- have credible experience of providing training.

Centre staff may undertake more than one role, eg tutor and assessor or internal verifier, but must never internally verify their own assessments.

Assessors and internal verifiers

While the Assessor/Verifier (A/V) units are valued as qualifications for centre staff, they are not currently a requirement for the qualification.

Continuing professional development (CPD)

Centres are expected to support their staff in ensuring that their knowledge remains current of the occupational area and of best practice in delivery, mentoring, training, assessment and verification, and that it takes account of any national or legislative developments.

Candidate entry requirements

Candidates undertaking this qualification should be qualified electricians and have previously obtained a Level 6 of the NQAI Certificate in Electrical Craft Practice or equivalent and centres are required to evaluate their ability to conduct fixed wire testing.

Age restrictions

There are no age limits attached to candidates undertaking the qualification unless this is a legal requirement of the process or the environment.

3 Units

Structure of units

The units in this qualification are written in a standard format and comprise the following:

- City & Guilds reference number
- title
- guided learning hours
- unit aim
- information on assessment
- learning outcomes which are comprised of a number of assessment criteria.

Unit aim

This unit covers the knowledge and practical skills needed to perform or technically administrate initial verifications or periodic inspection and testing of electrical installations.

The qualification relates to the inspection and testing of electrical installations as detailed in the National Rules for Electrical Installations for Ireland (current edition).

Learning outcomes

There are **six** learning outcomes to this unit.

The learner will be able to:

1. understand the requirements for safe and secure isolation of electrical installations
2. carry out safe isolation procedures to electrical installations
3. understand the requirements for the completion of electrical inspection and test documentation as detailed in the National Rules for Electrical Installations
4. carry out initial verification of electrical installations as detailed in the National Rules for Electrical Installations
5. carry out periodic inspection and testing of electrical installations as detailed in the National Rules for Electrical Installations
6. understand the regulatory procedures for certification of controlled and restricted works

Assessment

This unit will be assessed by:

- an assignment covering practical skills
- oral questioning covering the underpinning knowledge.

Unit 301 Electrical testing and verification of electrical installations

Learning outcomes and assessment criteria

Outcome 1 Understand the requirements for safe and secure isolation of electrical installations

The learner can:

1. explain industry recognised safe isolation procedures when inspecting and testing electrical circuits
2. state why safe isolation procedures are carried out before inspection and testing electrical circuits.

Outcome 2 Carry out safe isolation procedures to electrical installations

The learner can:

1. carry out safe isolation procedures in accordance with regulatory requirements
2. check the safety of electrical systems prior to conducting any inspection and testing of electrical installations.

Outcome 3 Understand the requirements for the completion of electrical inspection and test documentation as detailed in the National Rules for Electrical Installations

The learner can:

1. state the documentation required to be completed when conducting an initial verification of electrical installations:
 - installations <50 kVA import capacity
 - installations > 50 kVA import capacity
 - sub-systems
 - minor electrical installation works
 - Test Record Sheet
2. state the purpose of initial verification documentation
3. state the documentation required to be completed when carrying out periodic inspection and testing of electrical installations in service
4. state the purpose of periodic inspection and testing of electrical installations
5. state the equipment and components that are not included in the scope of periodic inspection as detailed in the National Rules for Electrical Installations
6. state the four recommendation codes used for observations made during periodic inspection and testing.

Outcome 4 Carry out initial verification of electrical installations as detailed in the National Rules for Electrical Installations

The learner can:

1. carry out a detailed inspection of installed electrical installation equipment and components
2. carry out pre-connection tests to an electrical installation to include:
 - continuity of protective, bonding and supplementary conductors
 - continuity of all conductors of ring final circuits
 - insulation resistance of the electrical installation
 - maximum resistance of protective conductors
 - verification of protection by separation of circuits
 - detection of erroneous connections between circuits
 - polarity and phase sequence
 - functional tests
3. carry out post connections test to an electrical installation to include:
 - fault loop impedance measurement
 - verification of operation of RCDs
4. verify results obtained in accordance with National Rules for Electrical Installation (current edition)
5. complete necessary documentation during and on completion of initial verification to include:
 - Completion Sheet
 - Test Record Sheet.

Outcome 5 Carry out periodic inspection and testing of electrical installations as detailed in the National Rules for Electrical Installations

The learner can:

1. carry out detailed inspection of existing electrical installation equipment and components
2. carry out necessary periodic tests to an existing electrical installation
3. verify results obtained in accordance with National Rules for Electrical Installation (current edition)
4. make suitable recommendations for any defects or deviations
5. complete necessary documentation during and on completion of periodic inspection and testing to include:
 - Periodic Inspection Report for an Electrical Installation
 - Test Record Sheet.

Outcome 6 Understand the regulatory procedures for certification of controlled and restricted works

The learner can:

1. state what works are Controlled Works
2. state what works are Restricted Works
3. state the distribution procedure of completed certification.

Unit 301

Electrical testing and verification of electrical installations

Assessment

Summary of assessment methods

Candidates will be required to complete the following assessments to achieve this qualification:

- assignment covering the practical learning outcomes
- oral questioning covering the knowledge outcomes.

Learning outcomes:	Assessment Type	
	Oral questioning	Practical Assignment
1. Understand the requirements for safe and secure isolation of electrical installations	✓	
2. Be able to carry out safe isolation procedures to electrical installations		✓
3. Understand the requirements for the completion of electrical inspection and test documentation as detailed in the National Rules for Electrical Installations	✓	
4. Be able to carry out initial verification of electrical installations as detailed in the National Rules for Electrical Installations		✓
5. Be able to carry out periodic inspection and testing of electrical installations as detailed in the National Rules for Electrical Installations		✓
6. Understand the regulatory procedures for Certification of Controlled and Restricted Works	✓	

Assignments

All details on assignments and oral questioning can be found in the Assessment Pack.

4 Course design and delivery

Initial assessment and induction

Centres will need to make an initial assessment of each candidate prior to the start of their programme to ensure they are entered for an appropriate type and level of qualification.

The initial assessment should identify any:

- specific training needs the candidate has, and the support and guidance they may require when working towards their qualification. This is sometimes referred to as diagnostic testing.
- units the candidate has already completed, or credit they have accumulated which is relevant to the qualification they are about to begin.

City & Guilds requires that centres provide an induction programme to ensure the candidate fully understands the requirements of the qualification they will work towards, their responsibilities as a candidate, and the responsibilities of the centre. It may be helpful to record the information on a learning contract.

Further guidance about initial assessment and induction, as well as a learning contract that centres may use, are available at **www.cityandguilds.com/international** and in the *Centre Guide – Delivering International Qualifications* (section 11.4 and section 8).

4 Course design and delivery

Recommended delivery strategies

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualification before designing a course programme.

Centres may design course programmes of study in any way which:

- best meets the needs and capabilities of their candidates
- satisfies the requirements of the qualification.

Appendix 1 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the **Centres and Training Providers homepage** on www.cityandguilds.com.

Centre Guide – Delivering International Qualifications contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve ‘approved centre’ status, or to offer a particular qualification. Specifically, the document includes sections on:

- the centre and qualification approval process and forms
- assessment, verification and examination roles at the centre
- registration and certification of candidates
- non-compliance
- complaints and appeals
- equal opportunities
- data protection.

International Handbook provides information on City & Guilds’ international portfolio of qualifications designed to help centres identify the right qualifications and levels for their learners. This brochure is also available to download from our website.

Preparing projects and portfolios for international qualifications (FR-00-0008) contains useful general information for centre staff and for candidates.

Guide to the assessment of practical skills in international vocational qualifications (GP-00-0004) offers advice for centre staff on planning and conducting practical assessments for IVQs.

Access to Assessment & Qualifications provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The **centre homepage** section of the City & Guilds website also contains useful information such on such things as:

- **Walled Garden**
Find out how to register and certificate candidates on line
- **Qualifications and Credit Framework (QCF)**
Contains general guidance about the QCF and how qualifications will change, as well as information on the IT systems needed and FAQs
- **Online assessment**
Contains information on how to register for GOLLA assessments.

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Useful contacts

Type	Contact	Query
International Customer Relations	T: +353 (0)1 405 2020 F: +353 (0)1 405 2021 E: ireland@cityandguilds.com	<ul style="list-style-type: none">• All candidate enquiries• Centre enquiries relating to centre approval• Ordering publications.
Centre enquiries	T: +353 (0)1 405 2020 F: +353 (0)1 405 2021 E: ireland@cityandguilds.com	<ul style="list-style-type: none">• Results• Entries• Enrolments• Invoices• Missing or late exam materials• Nominal roll reports
Walled Garden	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: walledgarden@cityandguilds.com	<ul style="list-style-type: none">• Re-issue of password or username• Technical problems• Entries• Results• GOLA/e-volve• Navigation• User/menu option problems

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