



Part of the  
**Enginuity** Group

# Qualification Manual

EAL Level 3 Electrotechnical in Dwellings

610/1335/3

Issue 1

[www.eal.org.uk](http://www.eal.org.uk)



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## 1.0 About EAL

For over fifty years, EAL has been the specialist awarding organisation for engineering, manufacturing, building services and related sectors. Developed to the highest technical standards, our qualifications reflect ever-changing industry and regulatory needs. We support the providers of our qualifications with an unparalleled level of service to ensure that Learners are well prepared to take the next step in their journeys, whether study, an apprenticeship or work.

Through industry partnerships with EAL Centres and training providers, decades of experience supporting our core sectors, and our role as part of the Enginuity Group, we have built unrivalled knowledge and understanding of employer skills needs. As a result, EAL's skills solutions, including apprenticeship End-Point Assessment, External Quality Assurance and qualifications are respected and chosen by employers to deliver real lifelong career benefits for all our Learners. That's why in the last ten years, 1.2 million people across the UK have taken EAL qualifications.

### 1.1 Equal Opportunities and Diversity

EAL expects its Centres to enable Learners to have equal access to training and assessment for qualifications in line with equalities legislation. Further details can be located in the EAL Equal Opportunities and Diversity Policy:

<http://www.eal.org.uk/Centre-support/Centre-support/policies-and-important-documents>

### 1.2 Customer Experience and Feedback

Customer Experience is a fundamental part of EAL's commitment to you. EAL aims to ensure that all customers receive a high-quality efficient service. We are always interested in feedback and if you have any comments or feedback on our qualifications, products or services, please contact the Customer Experience team:

EAL Customer Experience

Tel: +44 (0)1923 652 400

Email: [Customer.Experience@eal.org.uk](mailto:Customer.Experience@eal.org.uk)

## 2.0 Introduction to the Qualification

### What is this qualification?

This qualification forms part of an industry recognised apprenticeship for electrical installation apprentices in dwellings. **It is only for apprentices on the Domestic Electrician apprenticeship, IFATE Code ST1017. Non-apprentices are not permitted to undertake this qualification.** It covers the skills, knowledge, understanding and performance required by an electrician working in these installations. To demonstrate occupational competence the Learner must also complete the relevant EPA which is outside of this qualification.

### Who is this qualification for?

- those wishing to work towards becoming become a competent dwellings electrician (by completion of this qualification and the EPA)
- those wishing to pursue a career in the electrotechnical/building services sector, and who are undertaking an electrotechnical apprenticeship.

### What does this qualification cover?

This qualification comprises of knowledge and performance units, which between them cover health, safety, and environmental considerations, planning and overseeing electrical work activities in dwellings, design and installation practices and procedures for dwellings and associated buildings, inspection, testing and commissioning in dwellings, fault diagnosis and rectification in dwellings, the Requirements for Electrical Installations BS 7671. Unit 008 (Electrical Scientific Principles and Technologies for Work in Dwellings) has two graded assessments; however, the highest grade possible for the qualification is a Pass. Please refer to Section 6 for more information.

## 2.1 Support for this Qualification

This qualification:

- is regulated at Level 3
- forms part of an industry recognised apprenticeship standard.

## 2.2 Progression Opportunities

This qualification relates to:

- EAL qualifications in inspection and testing
- EAL L3 Electrotechnical Qualification
- EAL Level 3 Award in the In-Service Inspections and Testing of Electrical Equipment (PAT)
- EAL Level 4 Award in the Design and Verification of Electrical Installations
- EAL qualifications in environmental technology systems.

Learners may also be able to progress to other appropriate further or higher-level study. Further information can be obtained from the EAL Website or alternatively contact:

EAL Customer Experience

Tel: +44 (0)1923 652 400

Email: [Customer.Experience@eal.org.uk](mailto:Customer.Experience@eal.org.uk)



## 2.1 Qualification Support Materials

The following materials are available for this qualification:

- Delivery Units
- Assessor Packs
- Learner Packs
- Controlled knowledge assessments, and assignments.

All materials can be accessed by EAL registered Centres from the EAL Website  
[www.eal.org.uk](http://www.eal.org.uk)

## 2.2 Achievement of the Qualification

This qualification is gained when all the necessary units have been achieved. The Centre will then be able to apply for the Learner's Certificate. The Learner will also receive a Certificate of Unit Credit, listing all the achieved units.

## 3.0 Qualification Structure

### 3.1 Rule of Combination

This qualification will be obtained by the Learner once they have completed all the units listed. This diploma has 650 guided learning hours (GLH) and a Total Qualification Time (TQT) 743 hours. This is notional time required by the Learner to complete the qualification.

EAL Code	Unit Title	GLH	Ofqual Code
<b>Knowledge, understanding (and skills) units:</b>			
EDK3-001	Health, Safety and Environmental Considerations in Dwellings	42	Y/650/3705
EDK3-003	Practices and Procedures for Planning and Overseeing Electrical Work Activities in Dwellings	30	A/650/3706
EDK3-004	Design and Installation Practices and Procedures for Dwellings and Associated Buildings	208	D/650/3707
EDK3-006	Practices and Procedures for Inspection, Testing and Commissioning in Dwellings	82	F/650/3708
EDK3-007	Practices and Procedures for Fault Diagnosis and Rectification in Dwellings	29	H/650/3709
EDK3-008	Electrical Scientific Principles and Technologies for Work in Dwellings	110	L/650/3710
NETK3-18ED2	Understand the Requirements for Electrical Installations BS 7671:2018 (2022)	70	A/650/3706
<b>Performance units:</b>			
EDP3-001	Apply Health, Safety and Environmental Considerations in Dwellings	10	M/650/3711
EDP3-003	Plan and Oversee Electrical Work Activities in Dwellings in Dwellings	12	R/650/3712
EDP3-004	Apply Design and Installation Practices including Termination and Connection of Conductors in Dwellings	35	T/650/3713
EDP3-006	Inspect, Test, Report and Commission Electrical Systems in Dwellings	12	Y/650/3714
EDP3-007	Apply Fault Diagnosis and Rectification in Dwellings	10	A/650/3715

## 4.0 Centre and Qualification Approval

Centres wishing to run the qualification will need to comply with the Qualification Manual and EAL's Centre recognition criteria for these qualifications upon accreditation and launch. Centres must also put in place the appropriate physical and human resources and administration systems to effectively run the qualifications. Please refer to Section 5 for the requirements of Centre staff involved in the delivery of the qualification.

### **For existing EAL Centres to put the qualification on your Centre remit:**

- To add these qualifications to your Centre qualification remit, create and complete a qualification approval application form in Smarter Touch and submit to EAL

### **For non EAL Centres to gain Centre approval to run the qualification:**

- Please contact the EAL Customer Experience Department, who will be delighted to hear from you:

EAL Customer Experience

Tel: +44 (0)1923 652 400

Email: [Customer.Experience@eal.org.uk](mailto:Customer.Experience@eal.org.uk)

## 5.0 Profiles and Requirements

### 5.1 Staff Responsible for Registering and Certification of Learners

Centres are required to appoint a suitable member of staff who can take responsibility for registering Learners onto qualifications, submitting entries for assessments to EAL, and taking receipt of external assessment procedures (if appropriate). They may also be responsible for applying to EAL for Learner certificates. The role may be undertaken by the same person who undertakes quality assurance.

### 5.2 Teaching Staff

Teachers/instructors involved with the delivery of the knowledge units must demonstrate an understanding of the topics/technical content in this qualification. As a minimum they must have achieved a relevant technical qualification to at least level 3 which covers the key topics in this qualification.

Examples of evidence for this are: City & Guilds Level 2 plus Level 3 Certificates in Electrical Installation Part One and Part Two or EAL L3 Diploma In Electrotechnical Services. Other electrical engineering qualifications such as OND, or HNC/D etc. An example of not meeting this requirement is by only holding a L2 VRQ or a L3 Award – as clearly this person has not demonstrated technical/academic ability to the level of the qualification being delivered.

Teachers/instructors of practical work should in addition to the above be technically skilled for their instruction. This can be evidenced for example though a CV, JIB grading at an appropriate grade, membership of an institution e.g., EngTech; MIET.

All teachers/instructors must hold (or be working toward) a recognised teaching qualification (to a minimum of L3 standard) such as the Level 3 Award in Education and Training

Teachers/ Instructors must be able to demonstrate evidence of being up to date with the electrical industry. This can be evidenced for example by either accessing trade publications, undertaking updates to wiring regulations or other courses of learning, attending networking events relevant to this qualification and/or attending industry events.

### 5.3 Learners

**This qualification is only for apprentices on the Domestic Electrician apprenticeship, IFATE Code ST1017. Non-apprentices are not permitted to undertake this qualification.** Learners must have the minimum levels of literacy and numeracy to complete the learning outcomes and assessments.

Centres should make Learners with particular requirements aware of the content of the qualification and they should be given every opportunity to successfully complete the qualification. EAL will consider any reasonable suggestions for, and from, those with disabilities that would help them to achieve the learning outcomes without compromising the standards required.

#### **Age Restrictions**

Learners must be at least 16 years old.



## 5.4 Assessors

The Centre MUST provide EAL with the names of any individuals who will undertake internal assessment, so that these can be approved prior to them carrying out an assessment role.

Assessors must be working towards or have achieved a relevant recognised Assessor qualification such as a Level 3 Certificate in Assessing Vocational Achievement and continue to practice to that standard. Assessors who hold earlier qualifications (D32 or D33 or TQFE/TQSE) should have CPD evidence to the most current standards.

They must be occupationally competent electricians. Evidence which supports this is by the Assessor holding a relevant electrotechnical NVQ L3\* and/or having registration with the JIB as 'Approved Electrician' status or EngTech status via the IET.

\*Assessors who qualified before NVQs were developed should provide evidence of how they are occupationally competent (such as through a CV together with any relevant references).

Assessors must be able to demonstrate evidence of being up to date with the electrical industry. This can be evidenced for example by either accessing trade publications, undertaking updates to wiring regulations or other course of learning, attending networking events relevant to this qualification and/or attending industry events. They must also satisfy any other of EAL's requirements.

## 5.5 Markers: Technically Competent

Where Centre-based assessments are marked by a person who does not come into the Assessor category, the marker must have auditable technical competence in the subject. As an example, for a scientific based assessment the person may have auditable competency in that subject area but not necessarily electrotechnical installation or maintenance.

## 5.6 Internal Quality Assurers

This relates to staff undertaking internal verification of assessment. The Centre MUST provide EAL with the names of any teachers, trainers or other individuals who will undertake internal quality assurance, so that these can be approved prior to them carrying out this role.

The focus of internal quality assurance for this qualification is:

- the quality assurance of assessment procedures, including standardisation of assessment practice across different Assessors within the Centre
- internal standardisation of marking and moderation of Learner marks awarded for graded assessment.

Internal quality assurers must have a minimum of occupational experience evidenced by having a building services engineering related qualification or proven sector competence/experience plus access to relevant 'occupational expertise' to enable them to conduct their role as an internal quality assurer. This evidence and access to 'occupational expertise' is quality assured by EAL.

They must be working towards or have achieved a relevant recognised internal quality assurance qualification such as the Level 4 Award in the Internal Quality Assurance of

Assessment Processes and Practice and continue to practice to that standard. Assessors who hold earlier qualifications (D34 or V1) should have CPD evidence to the most current standards.

They must be able to demonstrate evidence of being up to date with building services engineering industry. This can be evidenced for example by either accessing trade publications, undertaking courses of learning, attending networking events relevant to this qualification and/or attending industry events.

## 5.7 Expert Witnesses

Where “Expert Witnesses” are used in the assessment process identified above, they must be sector-competent individuals who can attest to the Learner’s performance in the workplace.

It is not necessary for expert witnesses to hold an Assessor qualification, as a qualified Assessor must assess the performance evidence provided by an expert witness. Evidence from expert witnesses must meet the tests of validity, reliability, authenticity, and sufficiency.

Expert witnesses will need to demonstrate:

- They have relevant current knowledge of industry working practices and techniques
- That they have no conflict of interest in the outcome of their evidence.

## 5.8 Staff Invigilating Onscreen Examinations

Members of staff with responsibility for invigilating onscreen examinations must know, understand, and comply with the Procedures for Conducting the Exam Component within EAL Qualifications’ (EAF 1), which are published by EAL. These members of staff must also:

- have experience in conducting and controlling exam sessions  
or
- be supervised by an individual experienced in conducting and controlling exam sessions.

Note: A teacher/tutor who has prepared the Learners for the subject of the exam must not be the sole supervisor at any time during an exam for that subject(s).

## 6.0 Assessment

The assessment of this qualification involves the following aspects:

### Knowledge, understanding (and skills) units:

- EAL set and marked onscreen exams, which must be invigilated at the Centre. EAL carry out moderation of test results. The onscreen exam as part of the unit: Electrical Scientific Principles and Technologies for Work in Dwellings (Learning outcomes 1 - 5) is graded on the first attempt only: Pass, Merit, Distinction, or Fail. Any resitting will only be subject to a Pass grade maximum.
- Centre marked assignments (theory and practical). These require ongoing standardisation within the Centre. (EAL will carry out verification and continuous monitoring via EQA visits to QA this aspect). These are Pass or Fail only.
- A written controlled knowledge assessment (Centre marked) as part of the unit: Electrical Scientific Principles and Technologies for Work in Dwellings (Learning outcomes 6 - 10). This assessment requires standardisation, including moderation of Learner marks. EAL will carry out verification of final marks. This is a Centre marked and graded short answer written paper. This assessment is graded on the first attempt only: Pass, Merit, Distinction, or Fail. Any resitting will only be subject to a Pass grade maximum. (Practical assessment contributes to approximately 50% of the assessments within the qualification).

### Performance units:

- They require occupational evidence and are assessed via the Centre. (EAL will carry out verification and continuous monitoring by EQA visits).

The Learner must pass **ALL** assessments to achieve the qualification. A breakdown showing the assessment requirements for the knowledge and understanding units are shown in this table:

EAL Code	Unit Title	Onscreen Exam	Centre Marked Practical/Theory Assessment
EDK3-001	Health, Safety and Environmental Considerations in Dwellings	25 question MC exam, closed book	Practicals: 01A, 01B, 01C, 01D
EDK3-003	Practices and Procedures for Planning and Overseeing Electrical Work Activities in Dwellings	55 question onscreen exam	Theory Assignment + Practical task (connection and termination) with supplementary questions
EDK3-004	Design and Installation Practices and Procedures for Dwellings and Associated Buildings	<b>Open book</b> requires BS 7671 and the IET On-Site Guide	

EDK-006	Practices and Procedures for Inspection, Testing and Commissioning in Dwellings	40 question onscreen exam, closed book	Practical 06
EDK3-007	Practices and Procedures for Fault Diagnosis and Rectification in Dwellings	30 question onscreen exam, closed book	Practical 07
EDK3-008	Electrical Scientific Principles and Technologies for Work in Dwellings	*Learning outcomes 1 – 5 are assessed by a graded onscreen exam. 40 questions, closed book (08A)  <b>Graded Pass, Merit, Distinction, or Fail</b>	* Learning outcomes 6-10 are assessed by a short answer question paper, 78 marks, closed book (08B)  <b>Graded Pass, Merit, Distinction, or Fail</b>
NETK3-18ED2	Understand the Requirements for Electrical Installations BS 7671:2018 (2022)	60 question MC exam for LOs <b>Open book</b> requires BS 7671 only	N/A

**\*Both assessments (onscreen (08A) and written paper (08B)) for EDK3-008 are graded PMD on the first attempt only, resitting will only result in a Pass maximum.**

## 6.1 Assessment of Performance

Evidence that is sourced from the real working environment for performance units must be naturally occurring, assessed on a minimum of two occasions and can be generated by:

- Direct observation of performance in the workplace by a qualified Assessor and/or testimony from an expert witness subject to the activity being assessed. This will be the preferred source of evidence  
Or
- Candidate's reflective account of performance and work plans / approved work-based products, e.g., risk assessment documentation, method statements, diagrams, drawings, specifications, customer testimony, authorised and authenticated photographs/images and audio-visual records of work completed together with candidate questioning  
Or
- Evidence from prior achievements that demonstrably match the requirements of the Performance Unit  
Or
- Witness testimony only.

**Important Note:** Performance Unit NETP3/01 is subject to direct observation on at least two separate occasions in the workplace by a qualified Assessor. Reflective accounts ARE NOT

accepted as evidence for this Unit. Any outstanding performance criteria that are not met through the direct observation must be supplemented by alternate approved work-based products which is provided by the employer. Simulated assessment is **not** permitted.

Apprentices must be adequately supervised in the workplace in accordance with relevant legislation. This is particularly important when working toward the performance units when working at heights, inspecting and testing; and diagnosing faults.

## 6.2 Onscreen Exams

A specification for the examination, indicating the number of questions to be set for each learning outcome is provided in Appendix 1.

### Key Points

- the external examination is available on demand
- the examination must be undertaken by the Learner under controlled examination conditions, in accordance with EAL's Procedures for Conducting the Exam Component within EAL Qualifications' (EAF 1)
- the EAL co-ordinator within the Centre will assume responsibility for liaison and correspondence regarding the external assessment component
- Centres will be sampled, and spot checks will be carried out by EAL to ensure examinations are delivered in accordance with EAL published procedures.

**IMPORTANT:** The onscreen exam as part of Electrical Scientific Principles and Technologies is graded on the first attempt only: Pass, Merit, Distinction, or Fail. Any resitting will only be subject to a Pass grade maximum.

### For this exam there are two versions available:

- 08A (First Attempt): Learners should be entered for this on their first attempt only
- 08A (Resit): For Learners who need to re-sit the exam.

The test specifications for all exams are in Appendix 2.

## 6.3 Centre Marked Assessment for the Knowledge Units

This includes practical and/or theory assessments. These assessments are set by EAL and marked by members of the delivery team at the Centre (see profiles of markers in Section 5). All assessment decisions are then subject to internal standardisation and external quality assurance.

Centre marked assessments involve collecting and evaluating evidence that demonstrates achievement of the learning outcome/criteria. They are accompanied by marking criteria and other materials to ensure that the markers are consistent in their approach to assessment across Learners.

Centres are responsible for ensuring that Centre marked assessments are suitably controlled to ensure that assessment decisions are valid and reliable, and that work

submitted for assessment by Learners is prepared and produced by them independently, without assistance from others, and free of plagiarism.

### **Written (Controlled Knowledge Paper) for Unit: Electrical Scientific Principles and Technologies for Work in Dwellings**

This is a Centre marked and graded short answer written paper. The assessment should be treated as a controlled assessment therefore Centres must impose the necessary restrictions on the Learner. The assessment is graded Pass, Merit, Distinction; (or Fail). This assessment requires standardisation, including moderation of Learner marks. EAL will carry out verification of final marks.

**Important:** The short answer controlled written paper as part of Electrical Scientific Principles and Technologies (Learning outcomes 6 - 10) is graded on the first attempt only: Pass 50% (39 Marks), Merit 65% (51 Marks), Distinction 80% (63 Marks), or Fail. Any resitting will only be subject to a Pass grade maximum. This has been stipulated by the employer led trailblazer group. The test specification is in Appendix 2.

The written paper and marking scheme are password protected. Please contact EAL customer care for the password.

### **Standardisation of Centre Marked Assessment (Knowledge Units)**

Members of the internal quality assurance team at the Centre have an important role to play in ensuring that Centre marked assessment is standardised. In particular, they should work with tutor/Assessors to ensure that the correct procedures are being followed at all times, and to ensure that assessment decisions taken by different Assessors are consistent, fair and reliable. Key activities will include:

- meeting with tutor/Assessors (individually and collectively) throughout the course to discuss quality assurance and standardisation issues and provide support and guidance where needed
- observing tutor/Assessors and giving them feedback to help improve their assessment technique
- sampling Learner evidence across different Learner cohorts to ensure that appropriate standards have been met
- arranging cross-marking of Learner work to compare results and agree benchmarks.

Learners must achieve ALL components for the qualification to be awarded. If Learners are unsuccessful in one or more of the assessment components, then the overall result for the qualification will be 'referred' and a certificate will not be awarded.

The qualification as a whole is ungraded, but the two results from theory tests for unit: Electrical Scientific Principles and Technologies for Work in Dwellings (onscreen and written controlled knowledge paper) will appear on the Learner's certificate.

## 7.0 Quality Control of Assessments

There are two major activities in which EAL interacts with the Centre in relation to the External Quality Control of Assessment for this qualification. These are:

- **Recognition:** When a Centre decides to offer the qualification, the EAL External Quality Assurer (EQA) ensures that the Centre is suitably equipped and prepared for delivery and assessment
- **Engagement:** Throughout the ongoing delivery of the qualification EAL, through monitoring and other mechanisms will review the quality and consistency of assessment and internal quality assurance and recommend actions to address issues of concern.

### **Recognition**

In granting approval, EAL, normally through its EQAs, will ensure that the prospective Centre:

- Meets any procedural requirements specified by EAL
- Has sufficient and appropriate physical and staff resources
- Meets relevant health and safety and/or equality and access requirements
- Has a robust plan for the delivery, assessment, and QA for the qualifications (including, where appropriate, scope for involving employers).

EAL may decide to visit the Centre to view the evidence provided.

### **Engagement**

EAL, through EQA Engagement and other mechanisms will ensure that:

- A strategy is developed and deployed for the ongoing monitoring of the Centre – this will be based on an active risk assessment of the Centre, and will include details of the Learner, Assessor and internal quality assurer's sampling strategy and the rationale behind this
- The Centre's internal quality assurance processes are effective in Learner assessment
- Outcomes of internal assessment are verified, through sampling, to ensure standards are being maintained
- Sanctions are applied to a Centre where necessary and that corrective actions are taken by the Centre and monitored by the EQA
- Reviews of EAL's external auditing arrangements are undertaken.

## Appendix 1: Unit Summaries

### **EDK3-001: Health, Safety and Environmental Considerations in Dwellings**

#### **Unit Summary**

This unit will provide Learners with an understanding of the relevant legislation, practices and procedures when installing and maintaining electrical systems and equipment in dwellings. The knowledge covered in this unit underpins the safe and legal planning and working in dwellings.

#### **Summary of Learning Outcomes**

The Learner will:

1. Understand how relevant legislation applies in the workplace.
  2. Understand the procedures for dealing with environmental and health and safety situations in the work environment.
  3. Be able to establish establishing a safe working environment.
  4. Understand the requirements for identifying and dealing with hazards in the work environment.
- 

### **EDK3-003: Practices and Procedures for Planning and Overseeing Electrical Work Activities in Dwellings**

#### **Unit Summary**

This is designed to enable Learners to understand the practices and procedures used when planning electrical installation and maintenance work activities. Its content is the knowledge needed by a Learner to underpin the application of skills for overseeing and organising work in dwellings. The emphasis is on single-phase circuits in a residential premises with an awareness only of three-phase where relevant to underpin safe working.

#### **Summary of Learning Outcomes**

The Learner will:

1. Understand the requirements for working with others when organising and overseeing work activities.
2. Understand the requirements for procuring projects within the construction sector.
3. Understand the requirements for project managing work in dwellings.
4. Understand the management and use of data and information.



## **EDK3-004: Design and Installation Practices and Procedures for Dwellings and Associated Buildings**

### **Unit Summary**

This unit is designed to enable the Learner to develop the skills required, and apply the associated knowledge and understanding, in order that they are able to demonstrate the competence required to design, prepare and install wiring systems and associated equipment in domestic electrical installations in accordance with approved industry practices, statutory and non-statutory regulations. These include: The Electricity at Work Regulations and BS 7671, Health and Safety at Work etc. Act, Building Regulations, Approved Documents, and other standards that effect the design, installation and performance of domestic electrical installations.

The emphasis is on single-phase circuits in a residential premises with an awareness only of three-phase where relevant to underpin safe working.

### **Summary of Learning Outcomes**

The Learner will:

1. Know the documents affecting electrical design.
  2. Understand the applications of wiring systems common in dwellings.
  3. Understand the practices and procedures for carrying out electrical work.
  4. Understand the characteristics and applications of supply systems and consumer's equipment.
  5. Understand the requirements and measures for protection against electric shock.
  6. Understand protection against overcurrent.
  7. Understand electrical systems and circuits.
  8. Understand electrical accessibility aids and accessibility requirements.
  9. Understand methods of terminating, connecting and supporting conductors and cables in electrical wiring systems and equipment.
  10. Be able to apply connections, terminations and supporting of conductors and cables.
  11. Understand the electrical design procedure relevant to dwellings.
- 

## **EDK3-006: Practices and Procedures for Inspection, Testing and Commissioning in Dwellings**

### **Unit Summary**

This unit is designed to enable Learners to understand principles, practices and legislation for the initial verification and periodical inspection of electrical installations with statutory and non-statutory regulations and requirements. Its content is the knowledge needed by a Learner to underpin the application of skills for the inspection, testing, commissioning, certification. And reporting of electrical installations, including the condition of existing systems. The emphasis is on single-phase circuits in a residential premises with an awareness only of three-phase where relevant to underpin safe working.

### **Summary of Learning Outcomes**

The Learner will:

1. Understand the requirements for completing the safe isolation of single-phase electrical circuits and installations.
2. Understand the requirements for initial verification of single-phase electrical installations in dwellings.

3. Understand the requirements for completing the inspection of single-phase electrical installations in dwellings, prior to their being placed into service.
  4. Understand the requirements for the safe testing and commissioning of single-phase electrical installations in dwellings.
  5. Understand the requirements for testing before circuits are energised.
  6. Understand the requirements for testing energised single-phase installations.
  7. Understand the requirements for the completion of electrical installation certificates and associated documentation.
  8. Understand the requirements for the periodic inspection and testing of existing electrical installations in dwellings.
  9. Be able to confirm safety of single-phase system and equipment prior to completion of inspection, testing and commissioning.
  10. Be able to carry out inspection of electrical installations prior to them being placed into service.
  11. Be able to test single-phase electrical installations prior to them being placed into service.
  12. Be able to commission single-phase electrical systems and equipment.
  13. Be able to report on the condition of existing single-phase electrical systems and equipment.
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### **EDK3-007: Practices and Procedures for Fault Diagnosis and Rectification in Dwellings**

#### **Unit Summary**

This unit is designed to enable Learners to understand principles, practices and legislation associated with diagnosing and correcting electrical faults in electrical systems and equipment in dwellings in accordance with statutory and non-statutory regulations and requirements. Its content is the knowledge needed by a Learner to underpin the application of skills used for fault diagnosis and correction in electrical systems and equipment in dwellings. The emphasis is on single-phase circuits in a residential premises with an awareness only of three-phase where relevant to underpin safe working.

#### **Summary of Learning Outcomes**

The Learner will:

1. Understand the importance of reporting and communication during fault diagnosis work in dwellings.
2. Understand the nature and characteristics of electrical faults in dwellings.
3. Understand the fault diagnosis procedure for single-phase electrical systems.
4. Understand the procedures and techniques for correcting electrical faults in dwellings.
5. Be able to carry out fault diagnosis in dwellings.

**EDK3-008: Electrical Scientific Principles and Technologies for Work in Dwellings****Unit Summary**

This unit is designed to enable Learners to understand the relationship between electrical scientific principles and the competencies required of a qualified electrical operative working in dwellings. Its content is the knowledge needed by a Learner to underpin the application of skills in the installation and maintenance of electrical systems and equipment found in domestic electrical installations. Learners will also gain an understanding of renewable electrical energy technologies and their application in a residential context. The emphasis is on single-phase circuits, with an awareness only of three-phase where relevant to supplement the learning – particularly to underpin safe working.

**Summary of Learning Outcomes**

The Learner will:

1. Understand mathematical principles and SI units.
  2. Understand basic mechanical principles.
  3. Understand the relationship between resistance, resistivity, voltage, current and power.
  4. Understand the relationship between magnetism and electricity.
  5. Understand the types, applications, and limitations of electrical and electronic equipment.
  6. Understand electrical supply systems.
  7. Understand AC electrical properties.
  8. Understand the operating principles of electrical components.
  9. Understand the principles and applications of electrical lighting systems.
  10. Understand the principles and applications of heating systems.
- 

**NETK3-18ED2: Understand the Requirements for Electrical Installations BS 7671: 2018 (2022)****Unit Summary**

This unit gives the Learner an understanding of the full content of BS 7671, and how this applies to electrical installations within its scope.

**Summary of Learning Outcomes**

The Learner will:

1. Understand the scope, object and fundamental principles of BS 7671.
2. Understand the definitions used within BS 7671.
3. Understand how to assess the general characteristics of electrical installations.
4. Understand requirements of protection for safety for electrical installations.
5. Understand the requirements for selection and erection of equipment for electrical installations.
6. Understand the requirements of inspection and testing of electrical installations.
7. Understand the requirements of special installations or locations as identified in BS 7671.
8. Understand the information contained within Part 8 and the appendices of BS 7671.

## **EDP3-001: Apply Health, Safety and Environmental Considerations in Dwellings**

### **Unit Summary**

This unit is designed to enable Learners to develop the skills and apply the relevant knowledge associated with Health and Safety legislation, practices and procedures when installing and maintaining electrical systems and equipment.

### **Summary of Learning Outcomes**

The Learner will:

1. Be able to apply relevant health and safety legislation in the workplace.
  2. Be able to assess the work environment for hazards and identify remedial actions in accordance with health and safety legislation.
  3. Be able to apply methods and procedures to ensure work on site is in accordance with health and safety legislation.
  4. Be able to work in accordance with environmental legislation for electrical services.
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## **EDP3-003: Plan and Oversee Electrical Work Activities in Dwellings**

### **Unit Summary**

This unit is designed to enable Learners to develop the skills required, and apply the associated knowledge, so that they can demonstrate that they can implement practices and procedures for overseeing and organising the work environment for the installation of electrical systems and equipment.

### **Summary of Learning Outcomes**

The Learner will:

1. Be able to provide relevant people with technical and functional information for work on electrical systems and equipment.
2. Be able to co-ordinate liaison with other relevant persons during work activities.
3. Be able to organise and oversee work activities and operations in dwellings.
4. Be able to organise a programme for working on single-phase electrical systems and equipment.
5. Be able to organise the resource requirements for work on electrical systems and equipment in dwellings.

## **EDP3-004: Apply Design and Installation Practices including Termination and Connection of Conductors in Dwellings**

### **Unit Summary**

This unit is designed to enable the Learner to develop the skills required, and apply the associated knowledge, in order that they are able to demonstrate the competence required to terminate and connect conductors and cables in electrical systems and plan, prepare and install wiring systems and associated equipment in dwellings in accordance with approved industry practices, statutory and non-statutory regulations:

- The Electricity at Work Regulations
- The current edition of BS 7671
- Health and Safety at Work etc. Act
- Building Regulations.

### **Summary of Learning Outcomes**

The Learner will:

1. Prepare to install wiring systems, enclosures and associated equipment in dwellings.
  2. Interpret appropriate information for the installation of wiring systems, enclosures and associated equipment.
  3. Install wiring systems, and equipment in accordance with current relevant statutory and non-statutory regulations.
  4. Confirm the quality of the completed work.
  5. Prepare to terminate and connect cables and conductors used in dwellings.
  6. Terminate and connect conductors and cables used in dwellings.
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## **EDP3-006: Inspect, Test, Report and Commission Electrical Systems in Dwellings**

### **Unit Summary**

This unit is designed to enable the Learner to develop the skills required, and apply the associated knowledge, in order that they are able to demonstrate the competence required to inspect, test, commission and certify or report on electrical systems and equipment in buildings, structures and the environment in accordance with approved industry practices, statutory and non-statutory regulations:

- The Electricity at Work Regulations
- The current edition of BS 7671
- Health and Safety at Work etc. Act
- Building Regulations.

### **Summary of Learning Outcomes**

The Learner will:

1. Be able to confirm safety of the system and equipment prior to completion of inspection, testing and commissioning of single-phase systems in accordance with statutory and non-statutory regulations.
2. Be able to inspect single-phase electrical systems and equipment.
3. Be able to test and commission single-phase electrical systems and equipment.
4. Be able to inspect, test and report on the condition of an existing electrical installation.

## **EDP3-007: Apply Fault Diagnosis and Rectification in Dwellings**

### **Unit Summary**

This unit is designed to enable the Learner to develop the skills required, and apply the associated knowledge, in order that they are able to demonstrate the competence required to diagnose and correct electrical faults in electrical systems and equipment in buildings, structures and the environment in accordance with approved industry practices, statutory and non-statutory regulations:

- The Electricity at Work Regulations
- The current edition of BS 7671
- Health and Safety at Work etc. Act
- Building Regulations.

### **Summary of Learning Outcomes**

The Learner will:

1. Prepare to carry out fault diagnosis in dwellings.
2. Carry out fault diagnosis in dwellings.
3. Carry out fault rectification in dwellings.

## Appendix 2: Centre Examination Specifications

<b>Unit: Health, Safety, and Environmental Considerations in Dwellings (EDK3-01)</b>		
Assessment Type: Multiple Choice Number of Questions: 25 Time Allowed: 40 Minutes Closed book A non – programmable calculator is permitted.		
The examination will cover the knowledge learning outcomes of the unit, as follows:		
<b>Learning Outcome</b>	<b>Title</b>	<b>Approximate coverage:</b>
1	Understand how relevant legislation applies in the workplace	16%
2	Understand the procedures for dealing with environmental and health and safety situations in the work environment	20%
3	Understand establishing a safe working environment	36%
4	Understand the requirements for identifying and dealing with hazards in the work environment	28%
5	Be able to establish a safe working environment.	N/A Practical Assessment
<b>NOTE:</b> The pass mark for the examination is normally expected to be around 60%. To achieve the unit, the Learner must also achieve the Centre marked practical assessments.		

**Units:**

- **Practices and Procedures for Planning and Overseeing Electrical Work Activities in Dwellings (EDK3-003)**  
AND
- **Design and Installation Practices and Procedures for Dwellings and Associated Buildings (EDK3-004)**

(A single test covering applicable outcomes indicated below)

Assessment Type: Multiple Choice

Number of Questions: 55

Time Allowed: 110 Minutes

A non – programmable calculator is permitted

Permitted publications for the onscreen exam: BS 7671, IET OSG, and Unite the Union Book 'Electrician's Guide to Good Electrical Practice'.

The examination will cover the knowledge learning outcomes of the units as follows:

**EDK3-003**

<b>Learning Outcome</b>	<b>Title</b>	<b>Approximate coverage:</b>
1	Understand the requirements for working with others when organising and overseeing work activities	8%
2	Understand the requirements for procuring projects within the construction sector	N/A: Assignment
3	Understand the requirements for project managing work in dwellings	14%
4	Understand the management and use of data and information	N/A: Assignment

**EDK3-004**

<b>Learning Outcome</b>	<b>Title</b>	<b>Approximate coverage:</b>
1	Know the documents affecting electrical design	11%
2	Understand the applications of wiring systems common in dwellings.	18% + Assignment
3	Understand the practices and procedures for carrying out electrical work	10%
4	Understand the characteristics and applications of supply systems and consumer's equipment	N/A: Assignment
5	Understand the requirements and measures for protection against electric shock	N/A: Assignment
6	Understand protection against overcurrent	8%
7	Understand electrical systems and circuits	12%
8	Understand electrical accessibility aids and accessibility requirements	4%
9	Understand methods of terminating, connecting and supporting conductors and cables in electrical wiring systems and equipment	15%
10	Be able to apply connections, terminations and supporting of conductors and cables	N/A: Practical
11	Understand the electrical design procedure relevant to dwellings	N/A: Assignment

**NOTE:** The pass mark for the examination is normally expected to be around 60%. To achieve the units, the Learner must also achieve the Centre marked practical assessments.



**Unit: Practices and Procedures for Inspection, Testing and Commissioning in Dwellings (EDK3-006)**

Assessment Type: Multiple Choice  
 Number of Questions: 40  
 Time Allowed: 80 Minutes  
 A non – programmable calculator is permitted  
 Closed book.

The examination will cover the knowledge learning outcomes of the unit as follows:

<b>Learning Outcome</b>	<b>Title</b>	<b>Approximate coverage:</b>
1	Understand the requirements for completing the safe isolation of single-phase electrical circuits and installations	10%
2	Understand the requirements for initial verification of single-phase electrical installations in dwellings	10%
3	Understand the requirements for completing the inspection of single-phase electrical installations in dwellings, prior to their being placed into service	12%
4	Understand the requirements for the safe testing and commissioning of single-phase electrical installations in dwellings	10%
5	Understand the requirements for testing before circuits are energised	20%
6	Understand the requirements for testing energised single-phase installations	23%
7	Understand the requirements for the completion of electrical installation certificates and associated documentation	5%
8	Understand the requirements for the periodic inspection and testing of existing electrical installations in dwellings	10%
9	Be able to confirm safety of single-phase system and equipment prior to completion of inspection, testing and commissioning	N/A: Practical
10	Be able to carry out inspection of electrical installations prior to them being placed into service	N/A: Practical
11	Be able to test single-phase electrical installations prior to them being placed into service	N/A: Practical
12	Be able to commission single-phase electrical systems and equipment	N/A: Practical
13	Be able to report on the condition of existing single-phase electrical systems and equipment	N/A: Practical

**NOTE:** The pass mark for the examination is normally expected to be around 60%. To achieve the unit, the Learner must also achieve the Centre marked practical assessments.

**Unit: Practices and Procedures for Fault Diagnosis and Rectification in Dwellings EDK3-007)**

Assessment Type: Multiple Choice

Number of Questions: 30

Time Allowed: 60 Minutes

A non – programmable calculator is permitted

Closed book.

The examination will cover the knowledge learning outcomes of the unit as follows:

<b>Learning Outcome</b>	<b>Title</b>	<b>Approximate coverage:</b>
1	Understand the importance of reporting and communication during fault diagnosis work in dwellings	17%
2	Understand the nature and characteristics of electrical faults in dwellings	33%
3	Understand the fault diagnosis procedure for single-phase electrical systems	40%
4	Understand the procedures and techniques for correcting electrical faults in dwellings	10%
5	Be able to carry out fault diagnosis in dwellings.	N/A: Practical

**NOTE:** The pass mark for the examination is normally expected to be around 60%. To achieve the unit, the Learner must also achieve the Centre marked practical assessments.

**Unit: Electrical Scientific Principles and Technologies for Work in Dwellings (08A)**

Assessment Type: Multiple Choice  
 Number of Questions: 40  
 Time Allowed: 90 Minutes  
 A non – programmable calculator is permitted  
 Closed book.

Graded exam. The first attempt is normally expected to be around the boundaries: Pass 50% (20 marks), Merit 65% (26 marks), Distinction 80% (32 marks). **Any resits will only be subject to a Pass grade maximum.**

The grade from this assessment is stand-alone and does not contribute towards an overall qualification grade.

The examination will cover the knowledge learning outcomes of the unit as follows:

<b>Learning Outcome</b>	<b>Title</b>	<b>Approximate coverage:</b>
1	Understand mathematical principles and SI units	18%
2	Understand mechanical principles	12%
3	Understand the relationship between resistance, resistivity, voltage, current and power	37%
4	Understand the relationship between magnetism and electricity	20%
5	Understand the types, applications, and limitations of electrical and electronic equipment	13%

**Unit: Electrical Scientific Principles and Technologies for Work in Dwellings (08B)**

Assessment Type: Controlled written knowledge assessment, Centre marked.

Number of Questions: 26

Number of Marks: 78

Time Allowed: 120 Minutes

A non – programmable calculator is permitted

Closed book.

Graded exam. The first attempt is graded either Pass 50% (39 marks), Merit 65% (51 marks), Distinction 80% (63 marks), or Fail. **Any resits will only be subject to a Pass grade maximum.**

The grade from this assessment is stand-alone and does not contribute towards an overall qualification grade.

The examination will cover the knowledge learning outcomes of the unit as follows:

<b>Learning Outcomes</b>	<b>Title</b>	<b>Number of Questions</b>	<b>Number of Possible Marks</b>
6	Understand electrical supply systems	8	24
7	Understand AC electrical properties	9	27
8	Understand the operating principles of electrical components	3	9
9	Understand the principles and applications of electrical lighting systems	3	9
10	Understand the principles and applications of heating systems	3	9
	<b>Total:</b>	<b>26</b>	<b>78</b>

**Please note:** The written paper and marking scheme is password protected. Please contact EAL Customer Experience for the password.

**Unit: NETK3-18ED2: Understand the Requirements of Electrical Installations BS 7671:2018 (2022)**

Assessment Type: Multiple choice  
 Number of Questions: 60  
 Time Allowed: 120 minutes  
 A non – programmable calculator is permitted.

Additional resitting constraints: None

This is an open book exam requiring reference to IET Wiring Regulations Eighteenth Edition to Amendment 2, published by the Institute of Engineering and Technology.

The examination will cover the learning outcomes of the unit as follows:

<b>Learning Outcome</b>	<b>Title</b>	<b>Number of Questions</b>
1	Understand the scope, object, and fundamental principles of BS7671	4
2	Understand the definitions used within BS 7671	2
3	Understand how to assess the general characteristics of electrical installations	6
4	Understand requirements of protection for safety for electrical installations	15
5	Understand the requirements for selection and erection of equipment for electrical installations	14
6	Understand the requirements of inspection and testing of electrical installations	4
7	Understand the requirements of special installations or locations as identified in BS 7671	7
8	Understand the information contained within Part 8 and the appendices of BS 7671	8
	<b>Total:</b>	<b>60</b>

**NOTE:** The pass mark for the examination is normally expected to be around 60%.



## Appendix 3: Learner Registration and Certification

Learners must be registered with EAL on a code which relates to the qualification -this must be completed prior to assessment. Both Learner registration and certification can be completed online at the EAL Website [www.eal.org.uk](http://www.eal.org.uk). For paper-based registration and certification use the appropriate forms. These are located on the EAL Website, for guidance on registration and certification please refer to the Registration and Certification User Guide. To register the Learner on the chosen qualification/pathway code:

<b>Qualification Title:</b>	<b>Code:</b>
EAL Level 3 Electrotechnical in Dwellings	610/1335/3



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