City & Guilds Level 3 CPD Module in Utility Arboriculture Basic Electrical Knowledge (0041-06)

Version 1.0 August 2025

Assessment Pack – Centres/Candidates

Version and date	Change detail	Section
1.0 August 2025	Skills evaluation test sheets and score descriptors updated and moved from the qualification handbook into this document.	All
	Order of items amended.	Skills evaluation
	Items 8-12 and 18 added to skills evaluation (from CoC).	Skills evaluation descriptor table

Contents

1 Introduction

This assessment is for **Unit 006 Utility Arboriculture Basic Electrical Knowledge** in the Qualification Handbook, covering the following learning outcomes:

LO1 Apply basic electrical knowledge for utility arboriculture

The assessment can be achieved at pass only.

Skills Evaluation

The assessor will complete a skills evaluation for each candidate. Each activity in the skills evaluation will be scored 1-5 based on the score descriptors in section 2. The list of activities in the skills evaluation is provided in section 3. The assessment criteria for each activity are shown in section 4.

Record of assessment (ROA)

Centres must pre-populate the first section of the ROA and provide this to the assessor. The assessor will record skills evaluation scores, results and feedback (assessor and candidate) using the ROA and submit it to the centre following the assessment.

Pre-requisites

Learners must have achieved the pre-requisite Certificates of Competence (CoCs) listed below before they can be registered for this qualification.

City & Guilds Level 3 Certificate of Competence in Utility Arboriculture Basic Electrical Knowledge (0038-30) * **

*Equivalent, regulated Certificates of Competence (CoCs) from other awarding organisations are acceptable.
**Equivalent legacy City and Guilds Certificates of Competence (CoCs) are acceptable.

Assessment Conditions

The following must be applied to the assessment of this qualification:

- Assessment methodology: **Non-Independent Assessment**
- Assessment duration: **0.5 - 1 hour**
- Expected maximum number of candidates per day: **4**
- Maximum recommended number of candidates to assessor is **1:1**
- The qualification handbook and assessment pack must **not** be available to candidates during the assessment
- In areas where different voltages are used to the ones listed within this guidance, regional variation may be applied.

Site/workshop requirements:

- Site with suitable trees and electrical network for candidates to identify zones/distances/components.
- Photographs provided by the assessor can be used as an alternative.

Equipment/Machinery

- n/a

Consumables

- n/a

Supporting information

Appropriate Personal Protective Equipment (PPE) must be worn at all times on site.

A First Aid kit meeting current regulations, of the appropriate size for the number of persons on site, must be available. It is strongly recommended that candidates hold at least a recent, recognised 'Emergency First Aid' Training Certificate. Assessors must hold a current 'First Aid at Work' Certificate.

Assessors must ensure a risk assessment is carried out, and sufficient control measures are implemented.

A breach of Health and Safety that puts any person at risk during the assessment process will result in the assessment being terminated and the Candidate not meeting the required standard.

Provision must be made to comply with environmental and sustainability regulations and standards; segregation of resources for reuse, recycling and disposal should be implemented.

If these conditions are not observed this will result in the learner not completing the assessment.

2 Skills evaluation score descriptors

The descriptors in the table below will be used to assign a score for each activity in the skills evaluation.

Score	Descriptor
1	A poor level of skill/knowledge, potentially requiring intervention or termination of the assessment on the grounds of safety. It would be recommended that the candidate carries out no further work in the topic until further training has been completed.
2	A less than sufficient level of technical skills/knowledge demonstrated. It would be recommended that further training and consolidation in the topic should be sought.
3	Sufficient level of technical skills/knowledge. Candidate worked at the minimum standard for the topic, complying with industry good practice. Candidate should continue as demonstrated and consolidate their skills/knowledge.
4	A good level of technical skills/knowledge. Candidate worked above the minimum standard for the topic, complying with industry good practice while working efficiently. Candidate should continue as demonstrated and consolidate their skills/knowledge.
5	Excellent technical skills/knowledge. Candidate consistently worked above the minimum standard for the topic, complying with industry good practice while working highly efficiently. Candidate should continue as demonstrated.

To achieve an overall Pass result, candidates must score a minimum of 3 for **each** activity in the skills evaluation. A score of 2 or below for **any** activity will automatically result in a Fail overall.

3 Skills evaluation

Activity number and description		Score				
		1	2	3	4	5
1	Explain the risk assessment process	☐	☐	☐		
2	State personal protective equipment requirements	☐	☐	☐		
3	State the factors to consider when carrying out ground-based operations	☐	☐	☐		
4	State the definition of the vicinity zone	☐	☐	☐		
5	State the vicinity zone distances for the range of voltages	☐	☐	☐		
6	State the definition of the live zone	☐	☐	☐		
7	State the live zone distances for the range of voltages	☐	☐	☐	☐	☐
8	Explain how to categorise trees	☐	☐	☐		
9	State proximity zone 1 and 2 distances, and who they apply to	☐	☐	☐		
10	State the minimum ground clearances for overhead lines	☐	☐	☐		
11	Explain permit to work/permit for work and its details	☐	☐	☐		
12	State safety points related to applying earths	☐	☐	☐	☐	☐
13	Identify the emergency equipment required on site	☐	☐	☐		
14	State the emergency action required following contact with the electrical network	☐	☐	☐		
15	State the action to take when rescuing a person from a low voltage line	☐	☐	☐		
16	State the action to take when rescuing a person from a high voltage line	☐	☐	☐		
17	State the information given to the network operator in an emergency	☐	☐	☐	☐	☐
18	Identify a range of EHV, HV and LV overhead line components and explain the risks when working adjacent to each	☐	☐	☐	☐	☐
Result:						
To achieve a Pass result, candidates must score a minimum of 3 in **each** element of the skills evaluation. A score of 2 or below in **any** element will automatically result in a Fail.						

4 Skills evaluation descriptor table

Activity number and description from skills evaluation		Assessment criteria
1	Explain the risk assessment process (Topic 1.1)	The risk assessment process may contain the following five steps: • identify the hazards • decide who might be harmed and how • evaluate the risks and decide on precautions • record the findings and implement them • review and update the assessment as necessary
2	State personal protective equipment requirements (Topic 1.2)	PPE that is required where appropriate: • high visibility clothing • head protection • eye protection • hand protection • foot protection • hearing protection • specialist equipment as specified by the network operator • all PPE should conform to latest standards
3	State the factors to consider when carrying out ground-based operations (Topic 1.3)	Factors to consider when carrying out ground-based operations maybe: • do not point chipper discharge shoot towards conductors or equipment • do not leave long branches on site where there is a possibility of them being handled later and breaching the Vicinity Zone • ensure that a clear path is left under conductors to allow access for future patrols and maintenance • do not stack timber adjacent to substation boundary fences that may allow climbing access • ensure that hanging branches are not left as a hazard for others
4	State the definition of the vicinity zone (Topic 1.4)	Definition of the Vicinity Zone: • the zone around an exposed live circuit conductor which if maintained will prevent the danger of burn or electric shock • the Live Zone is included within the measurement of the Vicinity Zone
5	State the vicinity zone distances for the range of voltages (Topic 1.5)	The Vicinity Zone distances for the following range of voltages are: • LV = 1m • 11kV = 2m • 33kV = 2.5m • 66kV = 3m • 132 kV = 3.5m • 275 kV = 4m • 400 kV = 5m

Activity number and description from skills evaluation		Assessment criteria
6	State the definition of the live zone (Topic 1.6)	Definition of the Live Zone is: • the zone around an exposed live circuit conductor where there is danger of burn or electric shock if any part of a person's body or non-insulated tools, they are using enters the zone
7	State the live zone distances for the range of voltages (Topic 1.7)	The Live Zone distances for the range of voltages are: • **LV = 0.3m • **11kV = 0.8m • **33kV = 0.8m • 66kV = 1.0m • 132kV = 1.4m • 275kV = 2.4m • 400kV = 3.1m
8	Explain how to categorise trees (Topic 1.8)	Category A: • trees within the Vicinity Zone (including the Live Zone) at or above the level of conductors or associated equipment Category B: • trees outside but capable of breaching the Vicinity Zone (including the Live Zone) adjacent to conductors or associated equipment Category C: • trees within the Vicinity Zone (including the Live Zone) that are beneath the conductors or associated equipment Category D: • trees outside the Vicinity Zone with no potential of breaching the Vicinity Zone Documents for reference may be: • G55 • Distribution Safety Rules (DSR's) • Operational Practice Manual (OPM's)

9	State proximity zone 1 and 2 distances, and who they apply to
	(Topic 1.9)
		Definitions of Proximity Zone one to include:
		• includes all the trees that are to be felled that are within two tree lengths of any live equipment
		
		Proximity Zone two:
		• includes all the trees that are to be dismantled, pruned, or have other arboricultural work carried out on them that are within:
		  o 9m of any live equipment up to and including 66kV
		  o 15m of any live equipment greater than 66kV
		• Only certified and competent operatives may work within Proximity Zones without appropriate supervision of the network operator

Activity number and description from skills evaluation		Assessment criteria
10	State the minimum ground clearances for overhead lines (Topic 1.10)	Minimum ground clearances for overhead lines are: • LV = 5.2m • 11kV = 5.2m • 33kV = 5.2m • Over roads = 5.8m • Jumpers = 4.3m
11	Explain permit to work/permit for work and its details (Topic 1.11)	Conditions that must be met for a Permit to Work (PTW)/ Permit for Work (PFW) to be issued are: • issued for work on dead, earthed, high voltage equipment Key aspects of a Permit to Work: • issued by a network operator appointed person • received by a network operator appointed person • describes the work to be carried out • describes the limit of the work and safety precautions to be applied • it describes the equipment (spans etc.) which can be worked on safely • shows limitations of the work area • identifies that the overhead line is earthed • it shows where the high voltage is isolated • shows the location of the circuit main earth • when all work is complete, document is cleared, and staff informed
12	State safety points related to applying earths (Topic 1.12)	Safety points when proving the line dead and applying earths may include: • demonstrates that the overhead line is dead and safe for work • must be applied before work starts • must be seen from the point of work. • any equipment without an earth must be treated as live • circuit main earths must not be disturbed during work • additional earths may be moved to cover the works
13	Identify the emergency equipment required on site (Topic 1.13)	Emergency equipment required on site • telephone (with signal) • first aid kit • fire extinguisher • spill kit • rescue equipment

Activity number and description from skills evaluation		Assessment criteria
14	State the emergency action required following contact with the electrical network (Topic 1.14)	Emergency action required following contact by either machinery, trees, equipment or personnel with live overhead lines or underground cables: • keep everyone at least five meters away from the scene of the incident • do not become a victim by going too close or attempting a rescue • be aware that the high voltage auto re-closer circuit breaker may have switched power back on and there will be a voltage gradient in the ground • post a watchperson (if applicable) • do not touch any broken conductors or equipment • contact network operator/owner of overhead line so the line can made dead • only approach a casualty after the overhead line has been proven dead and earthed by the network operator • contact supervisor/line manager
15	State the action to take when rescuing a person from a low voltage line (Topic 1.15)	The action to take when rescuing a person from a low voltage line is: • consider pulling the persons or conductors clear using approved insulated rods – **minimum of three** 1.2m sections
16	State the action to take when rescuing a person from a high voltage line (Topic 1.16)	The action to take when rescuing a person from a high voltage line is: • no attempt should be made to rescue the person if they are in contact with a high voltage line • the circuit may auto-re-close and there will be a voltage gradient in the ground • only approach a casualty after the overhead line has been proven dead and earthed by the network operator
17	State the information given to the network operator in an emergency (Topic 1.17)	Information that needs to be given to the network operator for the line to be made dead:: • your name • explain what has happened • ask for the line to the made dead • give accurate location • give an accurate grid reference/W.3.W • give name and or number of overhead line • give pole numbers/equipment ID • transformer/switch name/number • describe damage you can see

18	Identify a range of EHV, HV and LV overhead line components and explain the risks when working adjacent to each (Topic 1.18)	High voltage overhead line identified associated risks: • high voltage conductors between poles • supporting steelwork at the pole top • stay wires above the 'in-stay' insulator Low voltage overhead line identified associated risk: • low voltage conductors between poles • supporting steelwork at the pole top • stay wires above the 'in-stay' insulator • street lighting Transmission tower lines identified associated risks: • High-voltage conductors between towers • damaged insulators at each tower • jumpers connecting one part of the line to another Transformer identified associated risks: • high voltage bushings on the transformer • low voltage bushings on the transformer • connecting jumpers from the high- voltage lines • connecting jumpers are lower than the minimum overhead line ground clearance • vicinity zone close to ground Cable terminal pole high voltage and low voltage identified associated risks: • high voltage bushings on the pole box or cable termination • jumpers connecting the cable to the overhead line • supporting steelwork at the pole top • damage to the cable at ground level High voltage and low voltage jumpers identified associated risks: • any jumpers that come down the pole and connect to other equipment. • all jumpers that connect one line to another Air brake switch (pole top mounted or under slung) identified associated risks: • jumpers that connect the overhead line to the air brake switch. • supporting steelwork at the pole top • operating handle that comes down the pole to ground level • open/closed Aerial bundled conductor identified associated risks: • damaged to the conductor insulation • conductor terminations may be exposed • must be always treated as live High voltage and low voltage fuses identified associated risks: • fuse unit • live equipment above or inside the fuse unit even when fuse removed

Activity number and description from skills evaluation		Assessment criteria
	(18 continued.)	Auto reclosers/pole mounted circuit breaker identified associated risks: • high-voltage bushings • jumpers connecting the Auto recloser /pole mounted circuit breaker to the overhead line Primary and Grid substation identified associated risks: • damage to 'un-climbable' fence • unauthorised access • live equipment at low level • ground mounted high voltage equipment Substation (transformer) identified associated risks: • damage to any cable connected to the substation high voltage/low voltage • damage to substation plant and equipment Underground cables identified associated risks: • shallow cable depth • any cable damage caused by digging, ground anchors, fencing etc • cable damage if suitable methods of locating not used (network operator plans, cable locator e.g., CAT/JENNY HV high voltage earths and LV low voltage bonds identified associated risks: • any equipment without an earth must be treated as live The hazards of high voltage earths: • be aware if either; the earth is disconnected at ground level before removal from the overhead line • the earth is disconnected at the ground level during the period of the work

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 **www.cityandguilds.com** or click on the links below:

Centre handbook: quality assurance standards

This document is for all approved centres and provides guidance to support their delivery of our qualifications. It includes information on:

- centre quality assurance criteria and monitoring activities
- administration and assessment systems
- centre-facing support teams at City & Guilds/ILM
- centre quality assurance roles and responsibilities.

The centre handbook should be used to ensure compliance with the terms and conditions of the centre contract.

Centre assessment: quality assurance standards

This document sets out the minimum common quality assurance requirements for our regulated and non-regulated qualifications that feature centre-assessed components. Specific guidance will also be included in relevant qualification handbooks and/or assessment documentation.

It incorporates our expectations for centre internal quality assurance and the external quality assurance methods we use to ensure that assessment standards are met and upheld. It also details the range of sanctions that may be put in place when centres do not comply with our requirements or actions that will be taken to align centre marking/assessment to required standards. Additionally, it provides detailed guidance on the secure and valid administration of centre assessments.

Access arrangements: when and how applications need to be made to City & Guilds
This 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 document library** also contains useful information on such things as:

- conducting examinations
- registering learners
- appeals and malpractice.

Useful contacts

Please visit the **contact us** section of the City & Guilds website

About City & Guilds

City & Guilds is the global skills partner, empowering people, organisations and economies to develop the skills they need for growth. With almost 150 years of trusted expertise, we support people into work, help them develop on the job and move into the next job.

We work with Governments, employers, training providers, colleges and industry stakeholders to design and deliver high-quality training, qualifications, assessments and credentials that lead to meaningful career progression. We understand the life changing link between skills development, social mobility and success. Our solutions span critical sectors including construction, engineering, transport, energy and electrical, serving over 1 million learners annually.

Through our comprehensive portfolio of brands and trusted global network, we set industry-wide standards for technical, behavioural and commercial skills to improve performance and productivity. We believe you can achieve your potential - and we're here to help make it happen.

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