



Level 2 and 3 Certificates in Highway Electrical Work

Qualification Specification

Version 3

Notice to users

The contents of this document have been carefully researched and are believed to be correct; however, due to the rapid nature of changes to industry, technology and working practices etc. Lantra cannot guarantee the accuracy or completeness of any interpretation or statement made in this document and does not accept liability for such statements or for any incorrect information provided.

This document has been produced to accompany the specified Lantra Awards' course. It is written to give broad guidance and support to users.

It is recommended that users ensure that they remain up to date with changes in industry and working practices by attending regular training or undertaking further CPD.

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Qualification Specification

Lantra Awards Level 2 and Level 3 Certificates in Highway Electrical Work

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- The Highway Electrical Association (HEA).

1 Why have these Qualifications been Developed?

This Qualification Specification applies to the following qualifications:

- Lantra Awards Level 2 Certificate in Highway Electrical Work
- Lantra Awards Level 3 Certificate in Highway Electrical Work.

These qualifications have been developed to provide operatives entering work in the highway electrical sector, with the essential knowledge and skills required to support achievement and progression within their career.

These qualifications have been developed by the Highway Electrical Skills Academy (HESA) and are designed to meet the requirements of the National Highway Sector Scheme (NHSS) 8.

These qualifications offer Learners in the highway electrical sector, a nationally recognised qualification route that will enable progression within the apprenticeship framework and Lantra Awards highway electrical National Vocational Qualifications (NVQs).

These qualifications include pathways that reflect the sub-sectors of the highway electrical sector, including Cameras, Communications and Variable Messaging Signs (VMS), Public Lighting, Slot cutting and Traffic Signals.

Learners must be assessed against all the learning outcomes and assessment criteria set out in the qualifications.

This qualification specification provides information for approved Lantra Provider employees, Assessors, Internal Quality Assurers (IQAs) and Provider Managers involved in the planning, delivery and assessment of the qualifications listed above.

2 Who are these Qualifications for?

These qualifications will encourage Learners to develop their knowledge, understanding and skills and are aimed at those who are entering employment for the first time; for those who are already working in highway electrical who want to develop their knowledge; and for those who wish to progress to further. The qualifications will enhance the ability of personnel to work safely, effectively and efficiently in the workplace, reducing unnecessary risks to themselves and others.

They provide the opportunity to achieve nationally recognised qualifications that reflect the national standards for the type(s) of role(s) they perform. The qualifications will be suitable for those new to the industry and those who have begun to establish themselves in a role within the highway electrical environment.

The qualifications are included as part of the highway electrical apprenticeship framework(s). There is an expectation that by completing the Level 2 qualification(s) Learners will go on to complete the relevant NVQ at Level 2 before taking the Level 3 qualifications within the apprenticeship framework(s).

These qualifications are available for Learners aged 16+.

2.1 Prerequisites

Entry for these qualifications is available to any individual who is capable of achieving the required standard. Provider staff should understand the demands of these qualifications and match Learners based on their individual capabilities and future progression requirements.

These qualifications have been developed to promote equal opportunities by eliminating any avoidable barriers which have the potential to restrict access or progression.

There are no formal requirements for entry to these qualifications.

3 What do these Qualifications Cover?

Learners undertaking these qualifications will be able to demonstrate their skills and knowledge to be able to work safely and effectively in the highway electrical sector.

The qualifications aim to assess the Learner's knowledge and understanding of:

- Health, safety and environmental implementation for highway electrical works
- Safe working practices within the highway electrical sector
- Basic highway electrical theory and practice
- Sub-sector awareness (sub-sector specific)
- Installation techniques (sub-sector specific)
- Routine maintenance techniques (sub-sector specific)
- Reactive maintenance techniques
- Specialist techniques (sub-sector specific).

Following regulatory requirements for qualifications to have a distinct purpose, this qualification is recognised and approved by the Office of Qualifications and Examinations Regulation (Ofqual) for:

- D. Confirm occupational competence and/or 'licence to practice'

Sub Purpose:

- D1. Confirm competence in an occupational role to the standards required.

These qualifications will encourage Learners to develop their knowledge, understanding and skills and are aimed at those who are entering employment for the first time, for those who are already working in highway electrical who want to develop their knowledge and for those who wish to progress to further.

3.1 Progression Routes

These qualifications form part of a wider Lantra Awards offer. The table below indicates where there are opportunities for Learners to progress via accredited training and, where applicable, regulated qualifications.

Qualifications	
Lantra Awards Level 2 NVQ Certificate in Highway Electrical Systems	These qualifications give Learners the opportunity to develop their skills and demonstrate competence across the full range of activities that highway electrical systems operatives need to be able to do as part of their everyday work.
Lantra Awards Level 2 NVQ Diploma in Highway Electrical Systems	
Lantra Awards Level 3 NVQ Diploma in Servicing and Commissioning Highway Electrical Systems	
Lantra Awards Level 3 NVQ Diploma in Servicing Highway Electrical Systems	

4 Qualification Overview

Where to look for further details

Qualification title	Lantra Awards Level 2 Certificate in Highway Electrical Work		<p>Ofqual's Register of Regulatory Qualifications</p> <p>register.ofqual.gov.uk</p>
Qualification number	603/2166/0		
Qualification aim	These qualifications have been developed to provide operatives entering work in the highway electrical sector, with the essential knowledge and skills required to support achievement and progression within their career.		
Qualification purpose	These qualifications will encourage Learners to develop their knowledge, understanding and skills and are aimed at those who are entering employment for the first time, for those who are already working in highway electrical who want to develop their knowledge and for those who wish to progress to further.		
Qualification start date	1 Sep 2017		
Level	2		
Credits	16		
GLH	125		
TQT	160		
Unit numbers and titles Regulator reference (Internal reference)	Core mandatory		
	T/616/0518 (HE2/1V)	Health, Safety & Environmental Implementation for Highway Electrical Work	
	A/616/0519 (HE2/2V)	Safe Working Practices within the Highway Electrical Sector	
	M/616/0520 (HE2/3V)	Basic Electrical Theory and Practice in the Highway Electrical Sector	
	Pathway A – Cameras		
	Y/616/0527 (HE2/15V)	Highway Cameras - Installation Techniques	
J/616/0605 (HE2/16V)	Highway Cameras - Routine Maintenance Techniques		
			Pages 15-65

L/616/0606 (HE2/17V)	Highway Cameras/Detector - Reactive Maintenance Techniques
Pathway B – Communications/VMS	
H/616/0613 (HE2/19V)	Communications/VMS - Fundamental Principles
D/616/0531 (HE2/20V)	Communications/VMS - Installation of Non-Infrastructure Equipment
M/616/0534 (HE2/21V)	Communications/VMS - Reactive Maintenance Techniques
Pathway C - Public Lighting	
T/616/0535 (HE2/4V)	Public Lighting Awareness
F/616/0537 (HE2/5V)	Public Lighting - Installation Techniques
J/616/0619 (HE2/6V)	Public Lighting - Routine Maintenance Techniques
A/616/0620 (HE2/7V)	Public Lighting - Reactive Maintenance Techniques
F/616/0621 (HE2/8V)	Public Lighting - Specific Techniques - Surface Protection
J/616/0622 (HE2/9V)	Public Lighting - Specific Techniques
Pathway D – Slot Cutting	
L/616/0623 (HE2/22V)	Slot Cutting - Cutting to Specification
R/616/0624 (HE2/23V)	Slot Cutting - Cable Laying and Sealing
Y/616/0625 (HE2/24V)	Slot Cutting - Testing and Repair of Cables
H/616/0627 (HE2/25V)	Slot Cutting - Access to Cabinets Through Ducts
Pathway E - Traffic Signals	
M/616/0629 (HE2/10V)	Traffic and Pedestrian Signal Awareness
H/616/0630 (HE2/11V)	Traffic Signals - Installation Techniques

	M/616/0632 (HE2/12V)	Traffic Signals - Routine Maintenance Techniques			
	A/616/0634 (HE2/13V)	Traffic Signals - Reactive Maintenance Techniques			
	F/616/0635 (HE2/14V)	Traffic Signals - Specific Techniques			
Qualification structure	<p>This qualification comprises:</p> <p>3 mandatory units 21 optional units.</p> <p>To achieve this qualification a Learner must achieve three core mandatory units and all units within their chosen pathway (see above for pathways).</p>				
Age group	Pre-16	16–18	18+	19+	
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Entry requirements	Learners must be able to read and interpret information provided in English.				
Prerequisites	There are no formal prerequisites for this qualification.				
Recognition of prior learning	Recognised Prior Learning (RPL) can be provided to evidence completion (in full or in part) in accordance with the Highway Electrical Training Specification. RPL must be agreed in line with the Provider's internal quality-assurance procedures i.e. a copy of a certificate from the awarding organisation.				
Assessment methods	<p>Underpinning knowledge will be assessed by multiple-choice assessment or a short answer written assessment paper.</p> <p>For practical elements, Learners will be assessed by a holistic practical assessment identified within each outcome. In addition, those Learners who will be assessed against an CBQ/NVQ will be expected to demonstrate the application of the underpinning knowledge through the relevant CBQ/NVQ unit(s).</p>				

Assessment model	This qualification is internally assessed with external verification. This means that Providers will appoint Trainers, Assessors and an Internal Quality Assurer (IQA) to provide internal quality assurance prior to External Quality Assurer (EQA) sign off.	
Grading	Pass/Fail	
Is there a skills card available?	No	Guidance Handbook for Providers
Fees	Registration and certification fees can be found in the Product Directory. Prices are subject to review on an annual basis so please contact the sales team if you do not have an up to date copy (sales@lantra.co.uk).	Product Directory; sales team
Related documents	An Assessment Strategy is available for Providers and Assessors which can be found on Quartzweb.	www.lantra.co.uk
How do I register Learners?	Via Quartzweb ordering.lantra.co.uk/Login.aspx	Quartzweb User Guide

Where to look for further details

Qualification title	Lantra Awards Level 3 Certificate in Highway Electrical Work		Ofqual's Register of Regulatory Qualifications register.ofqual.gov.uk
Qualification number	603/2168/4		
Qualification aim	These qualifications have been developed to provide operatives entering work in the highway electrical sector, with the essential knowledge and skills required to support achievement and progression within their career.		
Qualification purpose	These qualifications will encourage Learners to develop their knowledge, understanding and skills and are aimed at those who are entering employment for the first time, for those who are already working in highway electrical who want to develop their knowledge and for those who wish to progress to further.		
Qualification start date	1 Sep 2017		
Level	3		
Credits	13		
GLH	119		
TQT	130		
Unit numbers and titles Regulator reference (Internal reference)	Core mandatory		Pages 66 - 87
	H/616/0563 (HE3/1V)	Advanced Electrical Theory and Practice within the Highway Electrical Sector	
	K/616/0564 (HE3/2V)	Electrical Inspection and Testing (Pathway Specific)	
	M/616/0565 (HE3/3V)	Coordinate the Work of Others in Highway Electrical Work	
	Pathway A – Cameras		
A/616/0567 (HE3/10V)	Highway Cameras - Specialist Techniques - Transmission Systems and Techniques Fundamentals		

F/616/0568 (HE3/11V)	Highway Cameras - Specialist Techniques - Commissioning Procedures for Cameras
J/616/0569 (HE3/12V)	Highway Cameras - Specialist Techniques - Ancillary Equipment Skills
Pathway B – Communications/VMS	
F/616/0571 (HE3/13V)	Communications - Specialist Techniques - Maintenance of Specialist Communications Equipment
J/616/0572 (HE3/14V)	VMS - Specialist Techniques - Maintenance of Specialist Variable Message Sign Equipment
L/616/0573 (HE3/15V)	VMS - Specialist Techniques - Commissioning Procedures
Pathway C - Public Lighting	
R/616/0574 (HE3/4V)	Public Lighting - Specialist Routine Maintenance
Y/616/0575 (HE3/5V)	Public Lighting - Specialist Reactive Maintenance
Pathway E - Traffic Signals	
D/616/0576 (HE3/6V)	Traffic Signals - Specialist Techniques - Advance Principles
H/616/0577 (HE3/7V)	Traffic Signals - Specialist Techniques - Inspection and Commissioning
K/616/0578 (HE3/8V)	Traffic Signals - Specialist Techniques - Data Transmission and Ancillary Control
M/616/0579 (HE3/9V)	Traffic Signals - Specialist Techniques – Microprocessor Optimised Vehicle Actuation (MOVA)

Qualification structure	<p>This qualification comprises:</p> <p>3 mandatory units 12 optional units.</p> <p>To achieve this qualification a Learner must achieve three core mandatory units and all units within their chosen pathway (see above for pathways).</p>				
Age group	Pre-16	16–18	18+	19+	
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Entry requirements	Learners must be able to read and interpret information provided in English.				
Prerequisites	There are no formal prerequisites for this qualification.				
Recognition of prior learning	Recognised Prior Learning (RPL) can be provided to evidence completion (in full or in part) in accordance with the Highway Electrical Training Specification. RPL must be agreed in line with the Provider's internal quality-assurance procedures i.e. a copy of a certificate from the awarding organisation.				
Assessment methods	<p>Underpinning knowledge will be assessed by multiple-choice assessment or a short answer written assessment paper.</p> <p>For practical elements, Learners will be assessed by a holistic practical assessment identified within each outcome. In addition, those Learners who will be assessed against an CBQ/NVQ will be expected to demonstrate the application of the under-pinning knowledge through the relevant CBQ/NVQ unit(s).</p>				
Assessment model	This qualification is internally assessed with external verification. This means that Providers will appoint Trainers, Assessors and an Internal Quality Assurer (IQA) to provide internal quality assurance prior to External Quality Assurer (EQA) sign off.				
Grading	Pass/Fail				
Is there a skills card available?	No				Guidance Handbook for Providers
Fees	Registration and certification fees can be found in the Product Directory. Prices are subject to				Product Directory; sales team

	review on an annual basis so please contact the sales team if you do not have an up to date copy (sales@lantra.co.uk).	
Related documents	An Assessment Strategy is available for Providers and Assessors which can be found on Quartzweb.	www.lantra.co.uk
How do I register Learners?	Via Quartzweb ordering.lantra.co.uk/Login.aspx	Quartzweb User Guide

5 Content of Qualifications

5.1 Lantra Awards Level 2 Certificate in Highway Electrical Work

To achieve this qualification a Learner must achieve 3 core mandatory units and all of the units within their chosen pathway.

Unit titles	M/O/MO	GLH	Credits
Core mandatory (all)			
Health, Safety & Environmental Implementation for Highway Electrical Work	M	25	3
Safe Working Practices within the Highway Electrical Sector	M	62	6
Basic Electrical Theory and Practice in the Highway Electrical Sector	M	29	3
Pathway A – Cameras (all)			
Highway Cameras - Installation Techniques	MO	18	2
Highway Cameras - Routine Maintenance Techniques	MO	4	1
Highway Cameras/Detector - Reactive Maintenance Techniques	MO	21	2
Pathway B – Communications/VMS (all)			
Communications/VMS - Fundamental Principles	MO	27	3
Communications/VMS - Installation of Non-Infrastructure Equipment	MO	28	3
Communications/VMS - Reactive Maintenance Techniques	MO	27	3
Pathway C – Public Lighting (all)			
Public Lighting Awareness	MO	6	1
Public Lighting - Installation Techniques	MO	70	7
Public Lighting - Routine Maintenance Techniques	MO	14	1
Public Lighting - Reactive Maintenance Techniques	MO	20	2
Public Lighting - Specific Techniques - Surface Protection	MO	14	1
Public Lighting - Specific Techniques	MO	19	2
Pathway D – Slot Cutting (all)			
Slot Cutting - Cutting to Specification	MO	7	1
Slot Cutting - Cable Laying and Sealing	MO	7	1
Slot Cutting - Testing and Repair of Cables	MO	7	1
Slot Cutting - Access to Cabinets Through Ducts	MO	7	1
Pathway E – Traffic Signals (all)			
Traffic and Pedestrian Signal Awareness	MO	18	2
Traffic Signals - Installation Techniques	MO	46	5
Traffic Signals - Routine Maintenance Techniques	MO	17	2
Traffic Signals - Reactive Maintenance Techniques	MO	67	7
Traffic Signals - Specific Techniques	MO	8	1