

601/6960/6 - ETCAL Level 3 NVQ Certificate in Laboratory and Associated Technical Activities (QCF)

Introduction to the Qualification

1.1 Who is the qualification for?

- Employees who undertake and oversee technical activities within a laboratory in either an educational or industrial environment and wish to have formal recognition of their skills, competence and knowledge
- Learners registered on the Laboratory and Science Technicians apprenticeship framework

1.2 Learner entry requirements

There are no formal entry requirements for learners undertaking this qualification. However, centres must ensure that learners have the potential and opportunity to gain the qualification successfully.

1.3 Age restrictions

This qualification is not approved for use by learners under the age of 16, and ETA cannot accept any registrations for learners in this age group.

1.4 What does the qualification cover?

- Mandatory units cover those areas which have a common approach such as organisational safety requirements and using information recording systems
- 2 Pathways:
 - Education Science
 - Industrial Science

2 Qualification Structure

Education Science Pathway - Learners must achieve a minimum of 48 credits to gain the Education Science qualification. 10 credits must be achieved by completing the 2 common mandatory units, 6 credits achieved by completing 1 pathway mandatory unit and the remaining 32 credits by completing 5 units from the optional groups, 3 of which must be taken from Group A.

Industrial Science Pathway - Learners must achieve a minimum of 60 credits to gain the Industrial Science qualification. 10 credits must be achieved by completing the 2 common mandatory units, 30 credits achieved by completing the 3 pathway mandatory unit and the remaining 20 credits by completing 3 units from the optional groups, 2 of which must be taken from Group A.

Mandatory Units – Both units must be completed for both pathways

Ofqual code	Unit Title	Level	CV	GLH
H/601/9718	Maintain health and safety in a scientific or technical workplace	3	5	35
D/601/9569	Maintain effective and efficient working relationships for scientific or technical activities	3	5	25

Education Science Pathway Mandatory Unit – must be completed

Ofqual code	Unit Title	Level	CV	GLH
R/601/9732	Evaluate and provide scientific or technical assistance for learning activities	3	6	43

Education Science Pathway – Option Group A – 3 units must be achieved from this group

Ofqual code	Unit Title	Level	CV	GLH
F/601/9726	Diagnose faults, repair and maintain scientific or technical equipment for workplace activities	3	8	43
J/601/9730	Provide training for scientific or technical activities in the workplace	3	8	52
Y/601/9733	Demonstrate scientific or technical methods, techniques and skills to others in the workplace	3	8	56
D/601/9734	Improve the quality and reliability of scientific or technical activities in the workplace	3	10	82
H/601/9735	Test and evaluate new scientific or technical methods and equipment for learning activities	3	12	83
K/601/9736	Provide technical support for computer application software and equipment for learning activities	3	10	64

Education Science Pathway – Option Group B – The learner may choose two units from this group

Ofqual code	Unit Title	Level	CV	GLH
J/601/9727	Maintain and control stocks of all resources, equipment and consumables for scientific or technical activities	3	4	23
L/601/9728	Make presentations for scientific or technical activities in the workplace	3	6	36
R/601/9729	Assess their own scientific or technical knowledge and skills for workplace activities	3	4	23
L/601/9731	Provide scientific or technical leadership for a workplace team	3	16	83

Industrial Science Pathway Mandatory Units – all 3 must be completed

Ofqual code	Unit Title	Level	CV	GLH
K/601/9719	Carry out scientific or technical testing operations	3	12	57
D/601/9720	Access and communicate scientific or technical information to authorised personnel	3	6	39
H/601/9721	Provide technical advice and guidance for scientific or technical activities	3	12	57

Industrial Science Pathway – Option Group A – 2 units must be achieved from this group

Ofqual code	Unit Title	Level	CV	GLH
K/601/9722	Plan scientific or technical sampling and testing activities	3	8	41
M/601/9723	Carry out complex scientific or technical testing operations	13	12	57
T/601/97244	Carrying out complex scientific or technical sampling operations	3	8	41
A/601/9725	Carry out scientific or technical investigations	3	9	52
J/601/9579	Carry out small scale processing	3	8	45
F/601/9726	Diagnose faults, repair and maintain scientific or technical equipment for workplace activities	3	8	43
H/601/8195	Measuring, weighing and preparing compounds and solutions for laboratory use	3	16	66

Industrial Science Pathway – Option Group B – The learner may choose one unit form this group

Ofqual code	Unit Title	Level	CV	GLH
J/601/9727	Maintain and control stocks of all resources, equipment and consumables for scientific or technical activities	3	4	23
L/601/9728	Make presentations for scientific or technical activities in the workplace	3	6	36
R/601/9729	Assess their own scientific or technical knowledge and skills for workplace activities	3	4	23
J/601/9730	Provide training for scientific or technical activities in the workplace	3	8	52
L/601/9731	Provide scientific or technical leadership for a workplace team	3	16	83
T/601/2031	Following aseptic procedures in the laboratory environment	2	9	51

2.1 Unit requirements are available at the end of this document

2.2 Unit Endorsement

These units are endorsed by the Sector Skills Council for Science Industries, Cogent Skills.

3 Centre & Qualification Approval

Centres wishing to offer the qualification will need to gain ETA's approval to do so. Current ETA centres can do this via Quartz Web. For non ETA Centres to gain approval to run the qualification please provide your details via <http://quartz.etawards/quartz-system.com> and the ETA team will start the process of approval.

4 Resource Requirements

4.1 Assessors

Assessment must be carried out by competent assessors who hold, or are working towards, a current assessor qualification. They will be expected to regularly review their skills, knowledge and understanding and, where applicable, undertake continuing professional development to ensure that they are carrying out workplace assessment to the most up to date national occupational standards.

Assessors must be able to demonstrate that they have relevant and sufficient technical competence to evaluate and judge performance and knowledge evidence of this qualification, the units being taken and the associated assessment criteria. This will be demonstrated either by holding a relevant technical qualification or by proven experience in the learner's industry. The assessor's competence must, at the very least, be at the same level as that required of the learner in the assessment so that they are able to demonstrate the skills needed.

4.2 Internal Quality Assurer

Internal quality assurance (IQA) must be carried out by competent quality assurers who should hold or be working towards, a current internal quality assurance qualification. They will be expected to regularly review their skills, knowledge and understanding and, where applicable, undertake continuing professional development to ensure that they are carrying out workplace assessment to the most up to date national occupational standards.

Persons carrying out the role of internal quality assurance will also be expected to be fully conversant with the ETA requirements for IQA in centres. These are detailed in the centre manual.

IQAs must be able to demonstrate that they have relevant and sufficient technical competence to understand performance and knowledge evidence of this qualification, the units being taken and the associated assessment criteria. This will be demonstrated either by holding a relevant technical qualification or by proven experience in the learner's industry. The IQA's competence must be sufficient to recognise what constitutes acceptable performance, knowledge and understanding as required by this qualification.

4.3 External Quality Assurance Advisors

ETA will appoint an appropriately qualified person to provide advice and guidance to the centre team and act as their external quality assurance advisor (EQAA).

External quality assurance (EQA) must be carried out by competent quality assurers who should hold, or be working towards, a current external quality assurance qualification. They will be expected to regularly review their skills, knowledge and understanding and where applicable undertake continuing professional development to ensure that they are carrying out workplace assessment to the most up to date national occupational standards.

EQAAs must be able to demonstrate that they have relevant and sufficient technical competence to recognise performance and knowledge evidence of this qualification as required by the units being taken and the associated assessment criteria.

4.4 Assessment environment

The evidence of a learner's competence, knowledge and understanding for this qualification can only be regarded as valid, reliable, sufficient and authentic if demonstrated in a real working environment.

Mandatory Unit requirements

H/601/9718 - Maintain health and safety in a scientific or technical workplace
Level 3 **Guided Learning Hours 35** **Unit Credit Value 5**

1	Maintain health and safety in a scientific or technical workplace
3	Know how to maintain health and safety in a scientific or technical workplace

D/601/9569 - Maintain effective and efficient working relationships for scientific or technical activities
Level 3 **Guided Learning Hours 25** **Unit Credit Value 5**

1	Maintain effective and efficient working relationships for scientific or technical activities
3	Know how to maintain effective and efficient working relationships for scientific or technical activities

Education Science Pathway requirements

Mandatory Unit

R/601/9732 - Evaluate and provide scientific or technical assistance for learning activities
Level 3 **Guided Learning Hours 43** **Unit Credit Value 6**

1	Evaluate and provide scientific or technical assistance for learning activities
2	Know how to evaluate and provide scientific or technical assistance for learning activities

Option Group A

F/601/9726- Diagnose faults, repair and maintain scientific or technical equipment for workplace activities

Level 3 Guided Learning Hours 43 Unit Credit Value 8

1	Diagnose faults, repair and maintain scientific or technical equipment for workplace activities
2	Know how to diagnose faults, repair and maintain scientific or technical equipment for workplace activities

J/601/9730 Provide training for scientific or technical activities in the workplace

Level 3 Guided Learning Hours 52 Unit Credit Value 8

1	Provide training for scientific or technical activities in the workplace
2	Know how to provide training for scientific or technical activities in the workplace

Y/601/9733 Demonstrate scientific or technical methods, techniques and skills to others in the workplace

Level 3 Guided Learning Hours 56 Unit Credit Value 8

1	Demonstrate scientific or technical methods, techniques and skills to others in the workplace
2	Know how to demonstrate scientific or technical methods, techniques and skills to others in the workplace

D/601/9734 Improve the quality and reliability of scientific or technical activities in the workplace

Level 3 Guided Learning Hours 82 Unit Credit Value 10

1	Improve the quality and reliability of scientific or technical activities in the workplace
2	Know how to improve the quality and reliability of scientific or technical activities in the workplace

H/601/9735 Test and evaluate new scientific or technical methods and equipment for learning activities

Level 3 Guided Learning Hours 83 Unit Credit Value 12

1	Test and evaluate new scientific or technical methods and equipment for learning activities
2	Know how to test and evaluate new scientific or technical methods and equipment for learning activities

K/601/9736 Test Provide technical support for computer application software and equipment for learning activities **Level 3** **Guided Learning Hours 64** **Unit Credit Value 10**

1	Provide technical support for computer application software and equipment for learning activities
2	Know how to provide technical support for computer application software and equipment for learning activities

Option Group B

J/601/9727 - Maintain and control stocks of all resources, equipment and consumables for scientific or technical activities

Level 3 **Guided Learning Hours 23** **Unit Credit Value 4**

1	Maintain and control stocks of all resources, equipment and consumables for scientific or technical activities
2	Know how to maintain and control stocks of all resources, equipment and consumables for scientific or technical activities

L/601/9728 - Make presentations for scientific or technical activities in the workplace

Level 3 **Guided Learning Hours 36** **Unit Credit Value 6**

1	Make presentations for scientific or technical activities in the workplace
2	Know how to make presentations for scientific or technical activities in the workplace

R/601/9729 - Assess their own scientific or technical knowledge and skills for workplace activities

Level 3 **Guided Learning Hours 23** **Unit Credit Value 4**

1	Assess their own scientific or technical knowledge and skills for workplace activities
2	Know how to assess their own scientific or technical knowledge and skills for workplace activities

L/601/9731 - Provide scientific or technical leadership for a workplace team

Level 3 **Guided Learning Hours 83** **Unit Credit Value 16**

1	Provide scientific or technical leadership for a workplace team
2	Know how to provide scientific or technical leadership for a workplace team

Industrial Science Pathway requirements

Mandatory Units

K/601/9719 - Carry out scientific or technical testing operations
Level 3 Guided Learning Hours 57 Unit Credit Value 12

1	Carry out scientific or technical testing operations
2	Know how to carry out scientific or technical testing operations

D/601/9720 - Access and communicate scientific or technical information to authorised personnel
Level 3 Guided Learning Hours 39 Unit Credit Value 6

1	Access and communicate scientific or technical information to authorised personnel
2	Know how to access and communicate scientific or technical information to authorised personnel

H/601/9721 - Provide technical advice and guidance for scientific or technical activities
Level 3 Guided Learning Hours 39 Unit Credit Value 6

1	Provide technical advice and guidance for scientific or technical activities
2	Know how to provide technical advice and guidance for scientific or technical activities

Option Group A

K/601/9722 - Plan scientific or technical sampling and testing activities
Level 3 Guided Learning Hours 41 Unit Credit Value 8

1	Plan scientific or technical sampling and testing activities
2	Know how to plan scientific or technical sampling and testing activities

M/601/9723 - Carry out complex scientific or technical testing operations
Level 3 Guided Learning Hours 57 Unit Credit Value 12

1	Carry out complex scientific or technical testing operations
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2	Know how to carry out complex scientific or technical testing operations
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T/601/9724 - Carrying out complex scientific or technical sampling operations
Level 3 Guided Learning Hours 41 Unit Credit Value 8

1	Carrying out complex scientific or technical sampling operations
2	Know how to carrying out complex scientific or technical sampling operations

A/601/9725 - Carry out scientific or technical investigations
Level 3 Guided Learning Hours 52 Unit Credit Value 9

1	Carry out scientific or technical investigations
2	Know how to carry out scientific or technical investigation

J/601/9579 - Carry out small scale processing
Level 3 Guided Learning Hours 45 Unit Credit Value 8

1	Carry out small scale processing
2	Know how to carry out small scale processing

F/601/9726 - Diagnose faults, repair and maintain scientific or technical equipment for workplace activities
Level 3 Guided Learning Hours 43 Unit Credit Value 8

1	Diagnose faults, repair and maintain scientific or technical equipment for workplace activities
2	Know how to diagnose faults, repair and maintain scientific or technical equipment for workplace activities

H/601/8195 - Measuring, weighing and preparing compounds and solutions for laboratory use
Level 3 Guided Learning Hours 66 Unit Credit Value 16

1	Measure, weigh and prepare compounds and solutions for laboratory use
2	Know how to measure, weigh and prepare compounds and solutions for laboratory use

Option Group B

J/601/9727 - Maintain and control stocks of all resources, equipment and consumables for scientific or technical activities

Level 3

Guided Learning Hours 23

Unit Credit Value 4

1	Maintain and control stocks of all resources, equipment and consumables for scientific or technical activities
2	Know how to maintain and control stocks of all resources, equipment and consumables for scientific or technical activities

L/601/9728 - Make presentations for scientific or technical activities in the workplace

Level 3

Guided Learning Hours 36

Unit Credit Value 6

1	Make presentations for scientific or technical activities in the workplace
2	Know how to make presentations for scientific or technical activities in the workplace

R/601/9729 - Assess their own scientific or technical knowledge and skills for workplace activities

Level 3

Guided Learning Hours 23

Unit Credit Value 4

1	Assess their own scientific or technical knowledge and skills for workplace activities
2	Know how to assess their own scientific or technical knowledge and skills for workplace activities

J/601/9730 Provide training for scientific or technical activities in the workplace

Level 3

Guided Learning Hours 52

Unit Credit Value 8

1	Provide training for scientific or technical activities in the workplace
2	Know how to provide training for scientific or technical activities in the workplace

L/601/9731 - Provide scientific or technical leadership for a workplace team

Level 3

Guided Learning Hours 83

Unit Credit Value 16

1	Provide scientific or technical leadership for a workplace team
2	Know how to provide scientific or technical leadership for a workplace team

T/601/2031 - Following aseptic procedures in the laboratory environment
Level 2 Guided Learning Hours 51 Unit Credit Value 9

1	Follow aseptic procedures in the laboratory environment
2	Know how to follow aseptic procedures in the laboratory environment