



**Qualification Specification for:**

**OCN NI Level 4 Certificate in Industrial Laboratory Skills**

➤ **Qualification No: 610/1239/7**

## Qualification Regulation Information

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### **OCN NI Level 4 Certificate in Industrial Laboratory Skills**

Qualification Number: 610/1239/7

Operational start date: 01 August 2022

Operational end date: 31 July 2027

Certification end date: 31 July 2031

Qualification operational start and end dates indicate the lifecycle of a regulated qualification. The operational end date is the last date by which learners can be registered on a qualification and the certification end date is the last date by which learners can claim their certificate.

All OCN NI regulated qualifications are published to the Register of Regulated Qualifications ( <http://register.ofqual.gov.uk/> ). This site shows the qualifications and awarding organisations regulated by CCEA Regulation and Ofqual.

### **OCN NI Contact Details**

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## Foreword

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This document explains OCN NI's requirements for the delivery and assessment of the following regulated qualifications:

→ **OCN NI Level 4 Certificate in Industrial Laboratory Skills**

This specification sets out:

- Qualification features
- Centre requirements for delivering and assessing the qualification
- The structure and content of the qualification
- Unit details
- Assessment requirements for the qualification
- OCN NI's quality assurance arrangements for the qualification
- Administration

OCN NI will notify centres in writing of any major changes to this specification. We will also publish changes on our website at [www.ocnni.org.uk](http://www.ocnni.org.uk)

This specification is provided online, so the version available on our website is the most up to date publication. It is important to note that copies of the specification that have been downloaded and printed may be different from this authoritative online version.

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## About Regulation

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### OCN NI

Open College Network Northern Ireland (OCN NI) is a regulated Awarding Organisation based in Northern Ireland. OCN NI is regulated by CCEA Regulation to develop and award professional and technical (vocational) qualifications from Entry Level up to and including Level 5 across all sector areas. In addition, OCN NI is regulated by Ofqual to award similar qualification types in England.

### The Regulated Qualifications Framework: an overview

The Regulated Qualifications Framework (RQF) was introduced on 1<sup>st</sup> October 2015: the RQF provides a single framework for all regulated qualifications.

#### Qualification Level

The level indicates the difficulty and complexity of the knowledge and skills associated with any qualification. There are eight levels (Levels 1-8) supported by three 'entry' levels (Entry 1-3).

#### Qualification Size

Size refers to the estimated total amount of time it could typically take to study and be assessed for a qualification. Size is expressed in terms of Total Qualification Time (TQT), and the part of that time typically spent being taught or supervised, rather than studying alone, is known as Guided Learning Hours (GLH).

## Qualification Features

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### Sector Subject Area

2.1 Science

### [NOS - Cogent Laboratory Skills](#)

### Qualification Aim

The OCN NI Level 4 Certificate in Industrial Laboratory Skills will provide learners with the skills and knowledge to use laboratory equipment to perform testing and analysis activities in a laboratory environment in an industrial setting.

### Qualification Objectives

The objectives of the OCN NI Level 4 Certificate in Industrial Laboratory Skills are to enable learners to safely and competently carry out:

- calibration of laboratory equipment
- the development of standard operating procedures
- preparation of primary standards, serial dilutions and buffer solutions
- titration and
- laboratory risk assessments

### Grading

Grading for this qualification is pass/fail.

### Qualification Target Group

This qualification is targeted at learners who are currently or who wish to work in laboratory based occupations.

### Progression Opportunities

The OCN NI Level 4 Certificate in Industrial Laboratory Skills will allow learners to progress to higher level qualifications in science and related areas.

## Entry Requirements

The entry requirements for this qualification include the following:

- learners should be at least 18 years old
- have five GCSEs or equivalent including English and Maths at Grade C or above
- have a level 3 qualification or a level 2 qualification and in addition have at least one year's experience in a science related occupation

## Resource Requirements

Learners must have access to appropriate equipment typically found in an industrial/scientific laboratory workplace.

## Qualification Support

A Qualification Support pack is available for OCN NI centres within the login area of the OCN NI website (<https://www.ocnni.org.uk/my-account/>), which includes additional support for teachers, eg planning and assessment templates, guides to best practice, etc.

## Delivery Languages

This qualification is available in English only at this time. If you wish to offer this qualification in Welsh or Irish (Gaeilge) then please contact OCN NI who will review demand and provide as appropriate.

## Centre Requirements for Delivering the Qualification

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### Centre Recognition and Qualification Approval

New and existing OCN NI recognised centres must apply for and be granted approval to deliver the qualification prior to the commencement of delivery.

### Centre Staffing

Centres are required to have the following roles in place as a minimum, although a member of staff may hold more than one role\*:

- Centre contact
- Programme Co-ordinator
- Tutor
- Assessor
- Internal Verifier

\*Note: A person cannot be an internal verifier for their own assessments.

### Tutors

Tutors delivering the qualification should be occupationally competent and qualified to at least one level higher than the qualifications and have a minimum of one year's relevant experience.

### Assessors

The qualification is assessed within the centre and is subject to OCN NI's quality assurance processes. Units are achieved through internally set, internally assessed, and internally verified evidence.

#### **Assessors must:**

- be occupationally competent to at least one level higher than the qualification
- have a minimum of one year's experience in the area they are assessing
- have direct or related relevant experience in assessment
- assess all assessment tasks and activities

## **Internal Verification**

OCN NI qualifications must be scrutinised through the centre's internal quality assurance processes as part of the recognised centre agreement with OCN NI. The centre must appoint an experienced and trained centre internal verifier whose responsibility is to act as the internal quality monitor for the verification of the delivery and assessment of the qualifications.

The centre must agree a working model for internal verification with OCN NI prior to delivery of the qualifications.

### ***Internal Verifiers must:***

- have at least one year's occupational experience in the areas they are internally verifying
- attend OCN NI's internal verifier training if not already completed

Internal verifiers are required to:

- support tutors and assessors
- sample assessments according to the centre's sampling strategy
- ensure tasks are appropriate to the level being assessed
- maintain up-to-date records supporting the verification of assessment and learner achievement

## Structure and Content

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### OCN NI Level 4 Certificate in Industrial Laboratory Skills

In order to achieve the qualification learners must complete 18 credits.

|  |           |
|--|-----------|
| Total Qualification Time (TQT) for this qualification: | 180 hours |
| Guided Learning Hours (GLH) for this qualification:    | 80 hours  |

| Unit Reference Number      | OCN NI Unit Code | Unit Title                     | Credit Value | GLH | Level |
|----------------------------|------------------|--------------------------------|--------------|-----|-------|
| <a href="#">R/650/3489</a> | CBF875           | Laboratory Skills for Industry | 18           | 80  | Four  |

## Unit Details

| Title  | Laboratory Skills for Industry  |
|--|---|
| Level  | Four  |
| Credit Value   | 18  |
| Guided Learning Hours (GLH)  | 80  |
| OCN NI Unit Code   | CBF875  |
| Unit Reference No  | R/650/3489  |
| <i>Unit purpose and aim(s):</i> This unit will enable the learner to understand how to carry out industrial laboratory tasks and activities. |   |
| Learning Outcomes  | Assessment Criteria   |
| 1. Be able to calibrate laboratory equipment and develop standard operating procedures (SOP)s.   | 1.1. Calibrate at least 4 items of standard industry laboratory equipment including the following: <ol style="list-style-type: none"> <li>adhering to SOPs</li> <li>completing required documentation</li> <li>performing required calculations</li> <li>analysing test results to determine if equipment meets pass criteria</li> </ol> 1.2. Develop a SOP for an item of standard industry laboratory equipment including: <ol style="list-style-type: none"> <li>method development</li> <li>testing</li> <li>validation</li> </ol>  |
| 2. Be able to prepare primary standards and serial dilutions and record results.   | 2.1. Calculate masses required to prepare a primary standard accurately, recording data on an analytical method sheet.<br>2.2. Calculate required serial dilutions to given specifications.<br>2.3. Prepare serial dilutions accurately, recording data on an analytical method sheet.  |
| 3. Be able to carry out titration and analyse results.   | 3.1. Carry out the following types of titrations accurately: <ol style="list-style-type: none"> <li>acid-base</li> <li>oxidation-reduction reaction (REDOX)</li> <li>indicator electrode</li> </ol> 3.2. To determine the concentration of a secondary standard including: <ol style="list-style-type: none"> <li>recording data on an analytical method sheet</li> <li>calculating the concentration of the secondary standard.</li> </ol> 3.3. Analyse results of titrations carried out in AC 3.1 to include the following: <ol style="list-style-type: none"> <li>trends in data</li> <li>potentials source of error and anomalies</li> <li>determining data validity and relevancy.</li> </ol> |
| 4. Be able to produce buffer solutions.  | 4.1. Produce an acid and a base buffer to a given pH including: <ol style="list-style-type: none"> <li>calculation of the masses and volumes required</li> <li>prepare buffer from using the amounts calculated</li> <li>check and adjust pH of the buffer as required to required pH</li> </ol>  |

|   |  |
|---|--|
| 5. Be able to carry out a risk assessment.  | <p>5.1. Analyse own laboratory environment and tasks to be undertaken to identify potential hazards, control measures and risk rating.</p> <p>5.2. Carry out a risk assessment to include potential hazards, control measures and risk rating for the following:</p> <ul style="list-style-type: none"> <li>a) an industrial laboratory environment</li> <li>b) at least three different laboratory tasks</li> </ul>   |
| 6. Be able work safely and competently within an industrial laboratory environment. | <p>6.1. Adhere to given quality standards and quality management and audit processes whilst working within a laboratory including:</p> <ul style="list-style-type: none"> <li>a) ensuring consistency in method</li> <li>b) maintaining health and safety</li> <li>c) adhering to appropriate processes and procedures</li> <li>d) maintaining data integrity in line with relevant guidelines</li> </ul> <p>6.2. Adhere to regulatory controls whilst working within a laboratory including:</p> <ul style="list-style-type: none"> <li>a) Selecting and use appropriate type and level of required personal protective equipment (PPE) to meet requirements identified in AC 5.1 and 5.2</li> <li>b) standards of health and safety and appropriate housekeeping standards</li> <li>c) requirements for disposal of waste</li> </ul> |

#### Assessment Guidance

The following assessment method/s may be used to ensure all learning outcomes and assessment criteria are fully covered.

| Assessment Method                  | Definition   | Possible Content  |
|------------------------------------|--|---|
| Portfolio of evidence              | <p>A collection of documents containing work undertaken to be assessed as evidence to meet required skills outcomes</p> <p>OR</p> <p>A collection of documents containing work that shows the learner's progression through the course</p> | <p>Learner notes/written work</p> <p>Learner log/diary</p> <p>Peer notes</p> <p>Record of observation</p> <p>Record of discussion</p> |
| Practical demonstration/assignment | A practical demonstration of a skill/situation selected by the tutor or by learners, to enable learners to practise and apply skills and knowledge   | <p>Record of observation</p> <p>Learner notes/written work</p> <p>Learner log</p>   |
| Coursework                         | Research or projects that count towards a learner's final outcome and demonstrate the skills and/or knowledge gained throughout the course   | <p>Record of observation</p> <p>Learner notes/written work</p> <p>Tutor notes/record</p> <p>Learner log/diary</p>                     |
| E-assessment                       | The use of information technology to assess learners' work   | <p>Electronic portfolio</p> <p>E-tests</p>  |

## Quality Assurance of Centre Performance

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### External Verification

All OCN NI recognised centres are subject to External Verification. External verification visits and monitoring activities will be conducted annually to confirm continued compliance with the conditions of recognition, review the centre's risk rating for the qualifications and to assure OCN NI of the maintenance of the integrity of the qualifications.

The External Verifier will review the delivery and assessment of the qualifications. This will include the review of a sample of assessment evidence and evidence of the internal verification of assessment and assessment decisions. This will form the basis of the EV report and will inform OCN NI's annual assessment of centre compliance and risk. The External Verifier is appointed by OCN NI.

### Standardisation

As a process, standardisation is designed to ensure consistency and promote good practice in understanding and application of standards. Standardisation events:

- make qualified statements about the level of consistency in assessment across centres delivering a qualification
- make statements on the standard of evidence that is required to meet the assessment criteria for units in a qualification
- make recommendations on assessment practice
- produce advice and guidance for the assessment of units
- identify good practice in assessment and internal verification

Centres offering units of an OCN NI qualification must attend and contribute assessment materials and learner evidence for standardisation events if requested.

OCN NI will notify centres of the nature of sample evidence required for standardisation events (this will include assessment materials, learner evidence and relevant assessor and internal verifier documentation). OCN NI will make standardisation summary reports available and correspond directly with centres regarding event outcomes.

## Administration

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### Registration

A centre must register learners within 20 working days of commencement of a qualification.

### Certification

Certificates will be issued to centres within 20 working days of receipt of correctly completed results marksheets. It is the responsibility of the centre to ensure that certificates received from OCN NI are held securely and distributed to learners promptly and securely.

### Charges

OCN NI publishes all up to date qualification fees in its Fees and Invoicing Policy document. Further information can be found on the centre login area of the OCN NI website.

### Equality, Fairness and Inclusion

OCN NI has considered the requirements of equalities legislation in developing the specification for these qualifications. For further information and guidance relating to access to fair assessment and the OCN NI Reasonable Adjustments and Special Considerations policies, centres should refer to the OCN NI website.

### Retention of Evidence

OCN NI has published guidance for centres on the retention of evidence. Details are provided in the OCN NI Centre Handbook and can be accessed via the OCN NI website.

**OCN NI Level 4 Certificate in Industrial Laboratory Skills**  
**Qualification Number: 610/1239/7**

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Operational start date: 01 August 2022  
Operational end date: 31 July 2027  
Certification end date: 31 July 2031

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