



Qualification Specification for:

**OCN NI Level 4 Certificate in Concrete Construction
Detailing and Drafting**

➤ **Qualification No: 601/9037/1**

Qualification Regulation Information

OCN NI Level 4 Certificate in Concrete Construction Detailing and Drafting
Qualification Number: 601/9037/1

Operational start date: 01 July 2016
Operational end date: 30 June 2025
Certification end date: 30 June 2029

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

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

→ **OCN NI Level 4 Certificate in Concrete Construction Detailing and Drafting**

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.ocnri.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

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 1st 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).

For further information about the RQF see:

<https://www.ocnni.org.uk/blog/regulated-qualifications-framework-rqf/>

Qualification Summary

The OCN NI Level 4 Certificate in Concrete Construction Detailing and Drafting qualification will provide skills and knowledge in an area of skills demand in the Building and Construction Sector. The qualification will provide focus on 2D Computer Aided Design for Concrete Construction Detailing, Precast Concrete Hollowcore Slab Detailing and Precast Concrete Stair Detailing.

Sector Subject Area

4.1 Engineering

Grading

Grading for this qualification is pass/fail.

Qualification Target Group

The qualification is targeted at individuals who would use CAD software to design concrete pre-stressed flooring and stairs.

Progression Opportunities

The OCN NI Level 4 Certificate in Concrete Construction Detailing and Drafting qualification enables progression to further study in 3D CAD and Building Information Modelling.

Entry Requirements

Learners will be expected to have some experience of using computer aided design software and should be at least 16 years old.

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 the 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

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 at a higher level than the qualification and have appropriate experience in the area of building and construction.

Assessors

The qualifications are assessed within the centre and are 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 and qualified to at least one level higher than the qualification and have appropriate experience in the area of building and construction.
- have a minimum of one year's relevant 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

OCN NI Level 4 Certificate in Concrete Construction Detailing and Drafting

To achieve the qualification, the learner must successfully complete all three units for a total of 33 credits.

Total Qualification Time (TQT) for this qualification: 330 hours
 Guided Learning Hours (GLH) for this qualification: 231 hours

Unit Reference Number	OCN NI Unit Code	Unit Title	TQT	Credit Value	Level
<i>Mandatory Units</i>					
K/508/5872	CBD575	2D Computer Aided Design for Concrete Construction Detailing	150	15	Four
T/508/5874	CBD576	Precast Concrete Hollowcore Slab Detailing	90	9	Four
A/508/5875	CBD577	Precast Concrete Stair Detailing	90	9	Four

Unit Details

Title	2D Computer Aided Design for Concrete Construction Detailing
Level	Four
Credit Value	15
Guided Learning Hours (GLH)	105
OCN NI Unit Code	CBD575
Unit Reference No	K/508/5872
<i>Unit purpose and aim(s):</i> This unit will enable the learner to acquire the fundamental skills for using two-dimensional (2D) Computer Aided Design (CAD) software to produce and develop precast concrete construction details.	
Learning Outcomes	Assessment Criteria
1. Understand the range of precast products produced by concrete manufacturing.	1.1. Explain the range of precast products produced by the concrete manufacturing industry. 1.2. Analyse the entire design process to include the role of the following: a) customers b) designers c) approvals d) design principles 1.3. Explain the importance of post-production quality assurance processes in manufacturing. 1.4. Evaluate the limitations within the manufacturing process of precast concrete products which need to be considered. 1.5. Justify the use of 2D CAD in construction production and manufacturing of components.
2. Understand safe working practices in relation to CAD software and Health & Safety Regulations.	2.1. Summarise the software and hardware requirements for 2D CAD. 2.2. Justify the health and safety requirements for individuals using CAD software, including control measures. 2.3. Evaluate Construction Design and Management Regulations (CDM) and the implications in the production of details, including risk assessments. 2.4. Demonstrate the management of 2D files, including the use of standard documentation.
3. Be able to produce 2D CAD construction details.	3.1. Demonstrate the use of drawing templates, viewports, scaling and layer control. 3.2. Use various drawing and editing commands to produce a range of standard construction details and components to a given specification. 3.3. Use hatch, text and dimensioning techniques in the production of standard construction details and components. 3.4. Assess the use of a co-ordinate system, blocks, text and spreadsheets to facilitate accuracy of drawing.

4. Be able to publish information from 2D CAD files.	4.1. Plot and/or publish sheets, to paper and electronic files including plot styles. 4.2. Demonstrate the exporting of drawing to other file formats.
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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	A collection of documents containing work undertaken to be assessed as evidence to meet required skills outcomes OR A collection of documents containing work that shows the learner's progression through the course	Learner notes/written work Learner log/diary Peer notes Record of observation Record of discussion
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	Record of observation Learner notes/written work Learner log
Coursework	Research or projects that count towards a learner's final outcome and demonstrate the skills and/or knowledge gained throughout the course	Record of observation Learner notes/written work Tutor notes/record Learner log/diary

Title	Precast Concrete Hollowcore Slab Detailing
Level	Four
Credit Value	9
Guided Learning Hours (GLH)	63
OCN NI Unit Code	CBD576
Unit Reference No	T/508/5874
<i>Unit purpose and aim(s):</i> This unit will provide the learner with the opportunity to develop their 2D Computer Aided Design (CAD) software skills in the production of precast hollowcore concrete slab design and detailing.	
Learning Outcomes	Assessment Criteria
1. Understand the design requirements of precast concrete hollowcore slabs.	1.1. Explain the limitations of precast concrete hollowcore slabs in terms of design, manufacture and transport. 1.2. Apply Engineers design calculations onto individual precast concrete hollowcore slab references within drawings. 1.3. Explain composite beam design and the implications for precast concrete hollowcore slab layout and bearing details. 1.4. Explain surface finish classes of precast concrete hollowcore slabs.
2. Be able to produce 2D CAD construction details.	2.1. Create basic precast concrete hollowcore slab layouts using standard 2D CAD commands. 2.2. Demonstrate production of precast concrete hollowcore slab layouts with add-on software for detailing to include the following: <ol style="list-style-type: none"> lifting pins holes notches reduced ends solid ends open cores side pockets
3. Use a design calculation software package.	3.1. Demonstrate the use of a design calculation package to produce precast concrete hollowcore slab reinforcement. 3.2. Design slab to allow for progressive collage, including detailing of precast concrete hollowcore slab drawings and setting out layouts. 3.3. Explain wet works to include ordering of materials for site such as edge trim and reinforcement.
4. Be able to publish information from 2D CAD files for production.	4.1. Explain the process of drawing issue and documentation. 4.2. Demonstrate unit referencing and scheduling of slabs. 4.3. Produce linking precast concrete hollowcore slab drawing for production.

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	A collection of documents containing work undertaken to be assessed as evidence to meet required skills outcomes OR A collection of documents containing work that shows the learner's progression through the course	Learner notes/written work Learner log/diary Peer notes Record of observation Record of discussion
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	Record of observation Learner notes/written work Learner log
Coursework	Research or projects that count towards a learner's final outcome and demonstrate the skills and/or knowledge gained throughout the course	Record of observation Learner notes/written work Tutor notes/record Learner log/diary

Title	Precast Concrete Stair Detailing	
Level	Four	
Credit Value	9	
Guided Learning Hours (GLH)	63	
OCN NI Unit Code	CBD577	
Unit Reference No	A/508/5875	
<i>Unit purpose and aim(s):</i> This unit will enable the learner to develop their 2D Computer Aided Design (CAD) software skills in the production of precast concrete stair design and detailing.		
Learning Outcomes	Assessment Criteria	
1. Understand the design requirements of precast concrete stairs.	1.1. Explain the limitations of precast concrete stairs in terms of design, manufacture and transport. 1.2. Evaluate Statutory Regulations that impact on the design of stairs. 1.3. Explain the use of temporary handrail pockets. 1.4. Explain surface finish classes of concrete stairs.	
2. Be able to produce 2D CAD construction details.	2.1. Use standard 2D CAD commands to create detailed stair plans and sections in accordance with design team drawings and statutory regulations. 2.2. Demonstrate input of reinforcement from engineer's design onto individual flights and reference within drawings.	
3. Use a production software package.	3.1. Create mould details for fabrication of precast concrete stairs using add-on software. 3.2. Use software to produce stair reinforcement design. 3.3. Demonstrate unit reference numbering and calculation of concrete volume and tonnage for ordering.	
4. Be able to publish information from 2D CAD files for production.	4.1. Explain the process of drawing issue and documentation. 4.2. Produce mould drawings for production.	
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	A collection of documents containing work undertaken to be assessed as evidence to meet required skills outcomes OR A collection of documents containing work that shows the learner's progression through the course	Learner notes/written work Learner log/diary Peer notes Record of observation Record of discussion
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Quality Assurance of Centre Performance

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

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.

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