Group Award Specification for:

NC Built Environment at SCQF level 6

Group Award Code: GJ4F 46

NC Civil Engineering at SCQF level 6

Group Award Code: GJ4G 46

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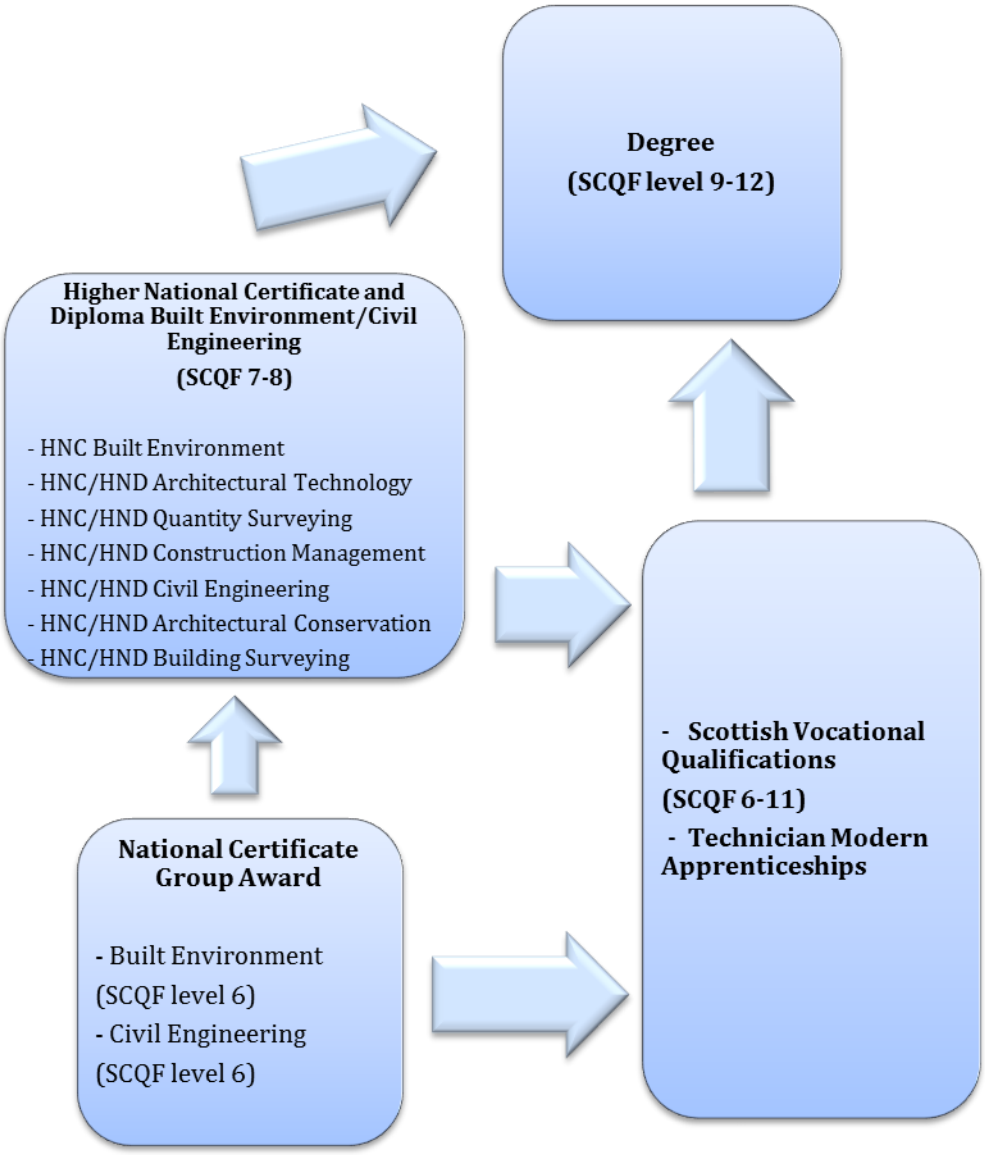
Contents

1 Introduction

This document was previously known as the Arrangements document. The purpose of this document is to:

- assist centres to implement, deliver and manage the qualification
- provide a guide for new staff involved in offering the qualification
- inform Course managers, teaching staff, assessors, learners, employers and HEIs of the aims and purpose of the qualification
- provide details of the range of learners the qualification is suitable for and progression opportunities
- Progression opportunities exist as below:



This is the Group Award Specification for the revised NC Built Environment and NC Civil Engineering awards, which were validated in October 2013. This Document contains the aims, guidance on access, details of Group Award Structure/s and guidance on delivery.

The National Certificate awards were designed as the exemplar articulation route to the HNC and HND Civil Engineering and Built Environment awards. The review has been carried out in response to environmental and legislative developments to maintain the currency of the awards. In addition the NC awards have been aligned more harmoniously with the HN awards, appropriate National Occupational Standards and university programmes.

Built Environment embraces Architectural Technology, Construction Management, Building Surveying and Quantity Surveying.

Civil Engineering is inextricably linked with the Built Environment discipline. In order to maximize the potential commonality of objective, structure and delivery, the two review and development processes have run in tandem.

The qualifications are targeted at part-time students, employed technicians and full-time students. These qualifications are designed as a year-long course, which would develop a maximum career choice prior to employment, or entry into higher education in civil engineering or one of the built environment disciplines.

The qualifications were designed as discrete, specialised qualifications to equip learners with the knowledge, skills and understanding required for employment or for progression to further academic and/or professional qualifications.

The profiles fulfil the requirements of employers within a continuously evolving industry by including Units which embrace traditional as well as modern methods of construction, technical communication skills, sustainability and building performance. Learners entering straight from school have the opportunity to enhance problem solving, numeracy and manual and computer-aided construction drawing skills with SCQF level 5 Units as they progress to SCQF level 6 Units with specialist content.

Currently, the NC awards are embedded in the Modern Apprenticeship in Construction frameworks for Scotland at level 3, Technical Occupations. They relate directly to an array of National Occupational standards embraced in the range of SVQ’s defined in the Modern Apprenticeships.

2 Qualifications structure

National Certificate Built Environment

This Group Award is made up of 12 SQA Unit credits.

It comprises 72 SCQF credit points.

42 SCQF credit points are at SCQF level 6 and 18 SCQF credit points are at SCQF level 5 in the mandatory section.

A further 12 SCQF credit points are required to be achieved from the selection of Units at SCQF level 5 and level 6 in the optional section.

There is no Graded Unit as such in this framework. However, as a fundamental part of the Group Award each learner will complete the Built Environment Project which embraces content from several other constituent Units. This will offer learners the opportunity to produce a coherent, coordinated response to the case study/project.

A mapping of Core Skills development opportunities is available in Section 5.3.

National Certificate Civil Engineering

This Group Award is made up of 12 SQA Unit credits.

It comprises 72 SCQF credit points.

54 are at SCQF level 6 and 6 are at SCQF level 5 in the mandatory section.

A further 12 SCQF credit points are required to be achieved from the selection of Units at SCQF level 5 and level 6 in the optional section.

There is no Graded Unit as such in this framework. However, as a fundamental part of the Group Award each learner will complete the Civil Engineering Project which embraces content from several other constituent Units. This will offer learners the opportunity to produce a coherent, coordinated response to the case study/project as for Built Environment.

A mapping of Core Skills development opportunities is available in Section 5.3.

2.1 Structure

National Certificate Built Environment at SCQF level 6

4 code	2 code	Unit Title	SQA credit	SCQF credit points	SCQF level
Mandatory Units (10 credits needed)					
H660	45	Domestic Building Services	1	6	5
H65X	46	Construction Technology: Groundworks and Substructure	1	6	6
H65Y	46	Construction Technology: Superstructure and Finishes	1	6	6
H65V	46	Computer Aided Drafting: An Introduction	1	6	6
H66G	45	Construction Calculations	1	6	5
F3JB	11	Construction Materials: An Introduction	1	6	5
F3JM	12	Construction Site Surveying: An Introduction	1	6	6
H669	46	Health and Safety in the Construction Industry	1	6	6
H65S	46	Built Environment Project	1	6	6
H66D	46	Sustainable Design for Architecture	1	6	6
Optional Units (2 credits needed)					
F3J6	12	Civil Engineering Site Work	1	6	6
F3JK	12	Construction Measurement and Costing	1	6	6
H66E	45	Drawing for Construction	1	6	5
H66F	46	Environmental Building Science: An Introduction	1	6	6
F3HV	11	Mathematics: Craft 1	1	6	5
H66A	46	Modern Methods of Construction: An Introduction	1	6	6
H65W	46	Construction Project Management: An Introduction	1	6	6
H66B	46	Structural Concepts: An Introduction	1	6	6
F3JC	12	Mechanics for Construction: An Introduction	1	6	6
H70S	46	Mathematics for Construction Technicians	1	6	6

National Certificate Civil Engineering at SCQF level 6

4 code	2 code	Unit title	SQA credit	SCQF credit points	SCQF level
Mandatory Units (10 credits needed)					
H66H	46	Civil Engineering Materials	1	6	6
F3JH	12	Civil Engineering Project	1	6	6
F3J6	12	Civil Engineering Site Work	1	6	6
F3J7	12	Civil Engineering Technology	1	6	6
H65V	46	Computer Aided Drafting: An Introduction	1	6	6
F3JM	12	Construction Site Surveying: An Introduction	1	6	6
H669	46	Health and Safety in the Construction Industry	1	6	6
F3HV	11	Mathematics: Craft 1	1	6	5
F3JC	12	Mechanics for Construction: An Introduction	1	6	6
H70S or HG51	46 45	Mathematics for Construction Technicians Construction Engineering Mathematics	1 1	6 6	6 5
Optional Units (2 credits needed)					
H65X	46	Construction Technology: Groundworks and Substructure	1	6	6
H66G	45	Construction Calculations	1	6	5
F3JK	12	Construction Measurement and Costing	1	6	6
H66E	45	Drawing for Construction	1	6	5
H66F	46	Environmental Building Science: An Introduction	1	6	6
H66A	46	Modern Methods of Construction: An Introduction	1	6	6
H65W	46	Construction Project Management: An Introduction	1	6	6
H66C	46	Sustainability in the Construction Industry	1	6	6

3 Aims of the qualifications

The awards aim:

- to provide learners with a broad and robust understanding of technical matters appropriate to early involvement in the construction and civil engineering sectors.
- to interest and enthuse learners when developing basic expertise and sector specific skills through meaningful study and competence reward.
- to promote and encourage employment within the sector.
- to facilitate progression to HN level by way of a unified and logical teaching platform.

3.1 General aims of the qualifications

The award should develop:

- skills of study, research and analysis.
- ability to define and solve problems.
- transferable skills.
- ability to be flexible and work co-operatively with others.
- responsibility for own learning.
- planning, organisational and review/evaluation skills.
- oral, written and graphical communication skills.
- numerical and ICT skills.
- resource management ability.
- flexibility, knowledge, skills and motivation as a basis to progress to higher level academic studies.

3.2 Specific aims of the qualifications

On completion of the award, a successful learner will be in possession of knowledge and skills indicating ongoing development of competence when:

National Certificate Built Environment

1 responding to the requirements of a design brief.
2 considering sustainability as fundamental in the building design process.
3 carrying out a technical appraisal of a construction site.
4 appraising structural options in response to site constraints.
5 appraising design options against given criteria.
6 comparing building systems — traditional and modern.
7 meeting current legislative requirements in the construction industry.
8 specifying materials and components.
9 applying CAL and CAD skills in support of learning.
10 speaking, writing, calculating, inter-relating, self-developing.

These specific aims are mapped to the NC Units in Section 5.1.

National Certificate Civil Engineering

1 how civil engineering materials are produced and tested to establish properties.
2 how to carry out site investigations and site surveys.
3 how to carry out preliminary siteworks and temporary works on site.
4 selection of plant and equipment for various activities on site.
5 understanding of foundation, steel and concrete frame construction.
6 how Health and Safety impacts on all elements of construction.
7 how to operate and manipulate IT and drawing software.
8 use differing forms of communications to manage elements of construction projects.

These specific aims are mapped to the NC Units in Section 5.1.

4 Recommended entry to the qualifications

Entry to this qualification is at the discretion of the centre. The following information on prior knowledge, skills, experience or qualifications that provide suitable preparation for this qualification has been provided by the Qualification Design Team as guidance only.

Learners would benefit from having attained the skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

- three Standard Grades at level 3 (General) or above, Intermediate 2 or National 4/5 in appropriate English, Science, Mathematics or technical subjects (Mathematics is strongly recommended for learners wishing to pursue NC Civil Engineering)
- a National Certificate in a related discipline
- those with other entry qualifications, including work experience, who demonstrate a realistic chance of success
- a construction craft qualification which might be combined with appropriate further study prior to, or in parallel with, the NC programme.

4.1 Core Skills entry profile

The Core Skill entry profile provides a summary of the associated assessment activities that exemplify why a particular level has been recommended for this qualification. The information should be used to identify if additional learning support needs to be put in place for learners whose Core Skills profile is below the recommended entry level or whether learners should be encouraged to do an alternative level or learning programme.

It is intended that the study of each of these qualifications will develop the learner's skills and abilities in all aspects of Core Skills as narrated in the following table. It is anticipated that those pursuing the NC Civil Engineering will develop *Numeracy* skills at an enhanced level commensurate with mathematical and technical content of the curriculum.

The Core Skills cover both NC Built Environment and Civil Engineering and have been mapped in Section 5.3.

Core Skill	Recommended SCQF entry level	Associated assessment activities
Communication	4	Skills developed during the Course will include the ability to produce and present accurate, well organised, written information in reports, field notes and annotation. Evidence will be to the standards required within the vocational area, relevant and coherent. Written work should be factually and technically accurate, logically structured and suitable for purpose and readership. Formative work will involve extensive discussion of the principles and practice of construction work, using the terminology and language of the workplace. Some Units recommend small group work in testing materials. Learners may also provide some evidence orally, demonstrating communication skills and using a range of verbal and non-verbal communication techniques which will meet the needs of employers.
Numeracy	4	The ability to interpret, apply and communicate complex numerical and graphical information is integral to achievement across the awards. Data on construction materials and structures is analysed, calculated and presented accurately, using text, tables and graphs.
Information and Communication Technology	4	Internet research on current and historical information and professional technical advice will be enhanced by access to VLE to provide essential underpinning knowledge for the award. Presentation of graphic and written materials will involve access to and use of professional software to manipulate and integrate data. Online guidance and support will be available. Security, consideration for other users and the managing of any technical problems will be a routine aspect of good practice.

Core Skill	Recommended SCQF entry level	Associated assessment activities
Problem Solving	4	Across the awards, learners have to identify essential limitations and devise and justify strategies for sustainable initiatives dealing with a range of construction issues in real situations. Site visits and industry-based case studies are analysed and evaluated with the guidance of assessors. Practical work can apply theory, considering needs of the task such as client expectations, relevant legislation, standards, resources and health and safety requirements and reviewing approaches taken.
Working with Others	4	Small group activities as part of formative work will support learners with no site experience. Site visits will involve observation and co-operation in team approaches to issues relevant to the Built Environment. All practical assessment tasks will develop team working and help improve working relationships with a range of others in different types of practical contexts. Feedback from assessors on effective group working practice will be on going.

5 Additional benefits of the qualification in meeting employer needs

These qualifications were designed to meet a specific purpose and what follows are details on how that purpose has been met through mapping of the Units to the aims of the qualification. Through meeting the aims, additional value has been achieved by linking the Unit standards with those defined in National Occupational Standards and/or trade/professional body requirements. In addition, significant opportunities exist for learners to develop the more generic skills, known as Core Skills (Section 5.2) through doing these qualifications.

5.1 Mapping of qualification aims to Units

National Certificate Built Environment

Unit title and code	Aims									
	1	2	3	4	5	6	7	8	9	10
Mandatory Units (10 credits needed)										
Domestic Building Services H660 45	*	*			*	*	*			
Construction Technology: Groundworks and Substructure H65X 46	*	*	*	*	*	*	*		*	
Construction Technology: Superstructure and Finishes H65Y 46	*	*		*	*	*	*		*	
Computer Aided Drafting: An Introduction H65V 46	*					*		*	*	
Construction Calculations H66G 45			*	*	*					
Construction Materials: An Introduction F3JB 11		*		*	*	*	*	*		
Construction Site Surveying: An Introduction F3JM 12		*	*	*		*	*	*		
Health and Safety in the Construction Industry H669 46	*	*	*	*	*	*	*		*	

Unit title and code	Aims									
	1	2	3	4	5	6	7	8	9	10
Built Environment Project H65S 46	*	*	*	*	*	*	*	*	*	
Sustainable Design for Architecture H66D 46	*	*		*	*	*	*	*	*	
Optional Units (2 credits needed)										
Civil Engineering Site Work F3J6 12		*	*	*		*				
Construction Measurement and Costing F3JK 12	*		*	*	*	*	*	*	*	
Drawing for Construction H66E 45	*			*	*	*			*	
Environmental Building Science: An Introduction H66F 46	*	*			*	*	*	*		
Mathematics: Craft 1 F3HV 11			*					*		
Modern Methods of Construction: An Introduction H66A 46	*	*				*	*			
Construction Project Management: An Introduction H65W 46	*		*	*		*		*	*	
Structural Concepts: An Introduction H66B 46		*	*	*	*					
Mechanics for Construction: An Introduction F3JC 12					*	*	*			

Unit title and code	Aims									
	1	2	3	4	5	6	7	8	9	10
Optional Units (cont)										
Mathematics for Construction Technicians H70S 46			*				*			

National Certificate Civil Engineering

Unit title and code	Aims									
	1	2	3	4	5	6	7	8	9	10
Mandatory Units (10 credits needed)										
Civil Engineering Materials H66H 46	*			*	*	*	*	*		
Civil Engineering Project F3JH 12	*	*	*	*	*	*	*	*		
Civil Engineering Site Work F3J6 12		*	*	*	*	*	*	*		
Civil Engineering Technology: An Introduction F3J7 12	*		*	*	*	*	*	*		
Computer Aided Drafting: An Introduction H65V 46					*		*	*		
Construction Site Surveying: An Introduction F3JM 12		*		*		*	*	*		
Health and Safety in the Construction Industry H669 46	*	*	*	*	*	*	*	*		
Mathematics: Craft 1 F3HV 11			*				*			
Mathematics for Construction Technicians H70S 46			*				*			
Mechanics for Construction: An Introduction F3JC 12					*	*	*			

Unit title and code	Aims									
	1	2	3	4	5	6	7	8	9	10
Optional Units (2 credits needed)										
Construction Technology: Groundworks and Substructure H65X 46	*	*	*	*	*	*		*		
Construction Calculations H66G 45	*	*						*		
Construction Measurement and Costing F3JK 12			*	*	*	*	*	*		
Drawing for Construction H66E 45					*		*	*		
Environmental Building Science: An Introduction H66F 46	*						*			
Modern Methods of Construction: An Introduction H66A 46		*	*	*	*	*	*			
Construction Project Management: An Introduction H65W 46	*	*	*	*	*	*	*	*		
Sustainability in the Construction Industry H66C 46	*		*		*	*				

5.2 Mapping of National Certificate Qualifications to current Scottish Vocational Qualifications included in Modern Apprenticeship Frameworks

Title	Scottish Vocational Qualifications incorporating National Occupational Standards	
National Certificate Built Environment	GJ1C 23	SVQ 3 Construction Site Supervision (Construction): Building and Civil Engineering
	GC2A 23	SVQ 3 Construction Contracting Operations: Estimating
	GJ1D 23	SVQ 3 Construction Site Supervision (Construction): Highways Maintenance and Repair
	GC2F 23	SVQ 3 Construction Site Supervision: Residential Development
	GC29 23	SVQ 3 Construction Contracting Operations: Buying
	GC2E 23	SVQ 3 Construction Contracting Operations: Surveying
	G95L 23	SVQ 3 Construction Contracting Operations: Site Technical Support
	GC2D 23	SVQ 3 Construction Contracting Operations: Planning
	GC2C 23	SVQ 3 Construction Contracting Operations: General
	GJ18 23	SVQ 3 Built Environment Design
	GF5N 23	SVQ 3 Occupational Work Supervision (Construction)
	GC70 23	SVQ 4 Controlling Lifting Operations: Planning Lifts (Construction)
	GC71 23	SVQ 3 Controlling Lifting Operations: Supervising Lifts (Construction)

Title	Scottish Vocational Qualifications incorporating National Occupational Standards	
National Certificate Civil Engineering	GJ1C 23	SVQ 3 Construction Site Supervision (Construction): Building and Civil Engineering
	GC2A 23	SVQ 3 Construction Contracting Operations: Estimating
	GJ1D 23	SVQ 3 Construction Site Supervision (Construction): Highways Maintenance and Repair
	GC2F 23	SVQ 3 Construction Site Supervision: Residential Development
	GC29 23	SVQ 3 Construction Contracting Operations: Buying
	GC2E 23	SVQ 3 Construction Contracting Operations: Surveying
	G95L 23	SVQ 3 Construction Contracting Operations: Site Technical Support
	GC2D 23	SVQ 3 Construction Contracting Operations: Planning
	GC2C 23	SVQ 3 Construction Contracting Operations: General
	GJ18 23	SVQ 3 Built Environment Design
	GF5N 23	SVQ 3 Occupational Work Supervision (Construction)
	GC70 23	SVQ 4 Controlling Lifting Operations: Planning Lifts (Construction)
	GC71 23	SVQ 3 Controlling Lifting Operations: Supervising Lifts (Construction)

Each Scottish Vocational Qualification (SVQ) identified in the above table contains a range of National Occupational Standards (NOS) that are specific to the discipline/ vocational area to which the SVQ applies. In turn, the National Certificate qualifications supply the broad-based underpinning knowledge for each SVQ and relate directly to the constituent NOS.

5.3 Mapping of Core Skills development opportunities across the qualification(s)

E — Embedded within the Unit, which means learners who achieve the Unit will automatically have their Core Skills profile updated on their certificate

S — Signposted, which means learners will be developing aspects of Core Skills through teaching and learning approaches but not enough to attract automatic certification

Unit code	Unit title	Communication		Numeracy		ICT		Problem Solving			Working with Others	
		Written	Oral	Using Number	Using Graphical Information	Accessing Information	Providing/Creating Information	Critical Thinking	Planning and Organising	Reviewing and Evaluating	Working Co-operatively with Others	Reviewing Co-operative Contribution
H660 45	Domestic Building Services							*S*		*S*		
H65X 46	Construction Technology: Groundworks and Substructure				S			S				
H65Y 46	Construction Technology: Superstructure and Finishes				S			E				
H65V 46	Computer Aided Drafting: An Introduction				S	S	E	E				
H66G 45	Construction Calculations	S		E	E			S		S		
F3JB 11	Construction Materials: An Introduction	S	S									
F3JM 12	Construction Site Surveying: An Introduction			S	S			S	S	S	S	S
H669 46	Health and Safety in the Construction Industry										*S*	

Unit code	Unit title	Communication		Numeracy		ICT		Problem Solving			Working with Others	
		Written	Oral	Using Number	Using Graphical Information	Accessing Information	Providing/Creating Information	Critical Thinking	Planning and Organising	Reviewing and Evaluating	Working Co-operatively with Others	Reviewing Co-operative Contribution
H65S 46	Built Environment Project	S	S	S	S	S	S	E	E	E	S	S
H66D 46	Sustainable Design for Architecture	S	S	S	S	S	S	S	S	S		
F3J6 12	Civil Engineering Site Work							S		S		
F3JK 12	Construction Measurement and Costing			S	S			S		S		
H66E 45	Drawing for Construction			S	S			S		S		
H66F 46	Environmental Building Science: An Introduction			E	S			E		S		
F3HV 11	Mathematics: Craft 1			S	S			S				
F3JC 12	Mechanics for Construction: An Introduction			S	S			S				
H66A 46	Modern Methods of Construction: An Introduction							S	S	S		

Unit code	Unit title	Communication		Numeracy		ICT		Problem Solving			Working with Others	
		Written	Oral	Using Number	Using Graphical Information	Accessing Information	Providing/Creating Information	Critical Thinking	Planning and Organising	Reviewing and Evaluating	Working Co-operatively with Others	Reviewing Co-operative Contribution
H65W 46	Construction Project Management: An Introduction	S	S					S		S		
H66B 46	Structural Concepts: An Introduction	S		E	S	S	S	E			S	
H70S 46	Mathematics for Construction Technicians			S	S			S				
H66H 46	Civil Engineering Materials	S	S	S	S			S	S	S	S	S
F3JH 12	Civil Engineering Project	S	S	S	S	S	S	S	S	S	S	S
F3J6 12	Civil Engineering Site Work							S		S		
F3J7 12	Civil Engineering Technology			S	S			S		S		
H65V 46	Computer Aided Drafting: An Introduction				S	S	S	S				
F3JM 12	Construction Site Surveying: An Introduction			S	S			S	S	S	S	S
H669 46	Health and Safety in the Construction Industry					S		S			S	

Unit code	Unit title	Communication		Numeracy		ICT		Problem Solving			Working with Others	
		Written	Oral	Using Number	Using Graphical Information	Accessing Information	Providing/Creating Information	Critical Thinking	Planning and Organising	Reviewing and Evaluating	Working Co-operatively with Others	Reviewing Co-operative Contribution
F3HV 11	Mathematics: Craft 1			S	S							
F3JC 12	Mechanics for Construction: An Introduction			S	S			S				
H65X 46	Construction Technology: Groundworks and Substructure				S			S				
H66G 45	Construction Calculations	S		S	S			S		S		
F3JK 12	Construction Measurement and Costing			S	S			S		S		
H66E 45	Drawing for Construction			S	S			S		S		
H66F 46	Environmental Building Science: An Introduction			S	S			S		S		
H66A 46	Modern Methods of Construction: An Introduction							S	S	S		

Unit code	Unit title	Communication		Numeracy		ICT		Problem Solving			Working with Others	
		Written	Oral	Using Number	Using Graphical Information	Accessing Information	Providing/Creating Information	Critical Thinking	Planning and Organising	Reviewing and Evaluating	Working Co-operatively with Others	Reviewing Co-operative Contribution
H65W 46	Construction Project Management: An Introduction							*S*		*S*		
H66C 46	Sustainability in the Construction Industry		S			S		S	S	S		
H70S 46	Mathematics for Construction Technicians			S	S			S				

5.4 Assessment strategy for the qualifications

National Certificate Built Environment

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Mandatory Units (10 credits needed)				
Domestic Building Services H660 45	Outcomes 1, 2 and 3 may be assessed on an individual basis in closed-book supervised conditions with a balance of short answer, restricted-response, graphical-response and extended-response questions.			
Construction Technology: Groundworks and Substructure H65X 46	Outcomes 1 and 2 should be assessed in an integrated, closed-book supervised assessment consisting of short answer and/or restricted-response questions. In addition, a folio of work for Outcome 2 should be produced in open-book conditions as a natural product of the learning and teaching process.			
Construction Technology: Superstructure and Finishes H65Y 46	Outcomes 1 and 2 should be assessed in an integrated, closed-book assessment consisting of short answer and/or restricted-response questions. In addition, a folio of work for Outcome 1 and 2 should be produced in open-book conditions as a natural product of the learning and teaching process.			

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Mandatory Units (cont)				
Computer Aided Drafting: An Introduction H65V 46	For Outcome 1, learners could be presented with architects/engineers drawings to show the various layouts adopted by different organisations showing various pieces of information such as; name of organisation, person responsible for the drawing, date, amendment number, scale, drawing title, specification/legend. Learners could prepare a drawing template for a given standard size of paper to include title panel and border.	Drawings from Outcome 2 can be presented within the template to an appropriate scale by using layout wizards and viewports. Learners should be guided towards creating two finished drawings of a component/feature relevant to their mode of study.		
Construction Calculations H66G 45	Outcomes 1, 2, 3 and 4 could be assessed in a single, integrated assessment event held under controlled, supervised conditions. The assessment should be closed-book.			
Construction Materials: An Introduction F3JB 11	Short answer and/or restricted-response questions under closed-book, supervised conditions.	Short answer and/or restricted-response questions under closed-book, supervised conditions.	Short answer and/or restricted-response questions under closed-book, supervised conditions.	

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Mandatory Units (cont)				
Construction Site Surveying: An Introduction F3JM 12	Short answer and/or restricted-response questions under open-book, supervised conditions.	Evidence for Outcomes 2 and 3 is produced in open-book, supervised conditions. The learner will actively participate in practical survey fieldwork events as part of a team and will produce appropriate documentation and drawings to confirm the survey elements.		
Health and Safety in the Construction Industry H669 46	Outcomes 1 and 2 should be assessed as an integrated, open-book case study.		Short answer and/or restricted-response questions under closed-book, supervised conditions.	Short answer and/or restricted-response questions under closed-book, supervised conditions.
Built Environment Project H65S 46	All Outcomes should be assessed in a single, integrated case study. A significant part of the project can be without close supervision although the assessor may provide guidance and support. While time constraints are relaxed, project work must be carried out within an agreed, set time frame, with pre-determined sanctions in operation when deadlines are not met.			
Sustainable Design for Architecture H66D 46	Evidence must be produced in controlled, supervised closed-book conditions. In this Unit an appropriate instrument of assessment would be a question paper consisting of a balance of short answer, restricted response and structured questions covering the Performance Criteria.	For Outcomes 2 and 3, learners will be required to produce reports and/or desk top published pieces to demonstrate that the Outcome has been completed to the standards set in the Performance Criteria. Learners may use notes, textbooks, handouts and internet material in producing the assessment responses, but must provide appropriate bibliographies and references. All case study buildings must have pictorial/drawing references to illustrate the analysis. Submissions may be produced as hard copies, digital/e-portfolio.		

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Optional Units (2 credits needed)				
Civil Engineering Site Work F3J6 12	Outcomes 1, 2 and 3 may be assessed on an individual basis in closed-book conditions with a balance of short answer, restricted-response, graphical-response and extended-response questions. Alternatively, all three Outcomes may be assessed as a Case Study in a final, end-of-Unit assessment under similar conditions.			
Construction Measurement and Costing F3JK 12	Short answer, restricted-response and structured questions under closed-book, supervised conditions.	Short answer, restricted-response and structured questions under closed-book, supervised conditions.	Case study/project under open-book, supervised conditions.	
Drawing for Construction H66E 45	Freehand graphical assignment in open-book, supervised conditions. Sketches produced as natural products of teaching and learning processes.	Formal graphical assignment in open-book, supervised conditions. Drawings produced as natural products of teaching and learning processes.	Short answer and/or restricted-response questions under closed-book, supervised conditions.	
Environmental Building Science: An Introduction H66F 46	Outcomes 1, 2 and 3 may be assessed on an individual basis in closed-book conditions with a balance of short answer, restricted-response questions and calculations. Alternatively, all three Outcomes may be assessed as a Case Study in a final, end-of-Unit assessment under similar conditions. In any case, the total assessment duration for this Unit should not exceed three hours.			
Mathematics: Craft 1 F3HV 11	All five Outcomes may be assessed individually under closed-book, supervised conditions with appropriate short answer and restricted-response questions and calculations or as a single, integrated event of no more than two hours duration.			

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Optional Units (cont)				
Modern Methods of Construction: An Introduction H66A 46	Outcomes 1, 2 and 3 may be assessed on an individual basis in closed-book conditions with a balance of short answer, restricted-response and structured questions supplemented by sketches/drawings prepared as a natural production of the learning and teaching processes. Alternatively, all three Outcomes may be assessed as a Case Study in a final, end-of-Unit assessment under similar conditions.			
Construction Project Management: An Introduction H65W 46	This assessment will be covered by a short written response for each question. The response should be 100–150 words.	This assessment is divided into two areas whereby learners will be expected to: (a) describe at least eight entries that would be included in a site diary. (b) describe the process which allows the contractor to be paid for work carried out. 100–150 words.	This assessment is divided into two areas whereby learners will be expected to: Describe the advantages of: (a) having regular construction team meetings. 100–150 words (b) having regular project team meetings. 100–150 words.	An appropriate instrument of assessment for Outcome 4 will be a question paper consisting of a balance of short answer and structured questions relating to given project drawings, schedules and programmes.
Structural Concepts: An Introduction H66B 46	Outcomes 1 and 3 may be assessed in an integrated, open-book research assignment requiring written and graphical product evidence.	Outcome 2 may be assessed by a practical assignment supplemented by short answer and/or restricted-response questions, all carried out under supervised conditions.	Outcomes 1 and 3 may be assessed in an integrated, open-book research assignment requiring written and graphical product evidence.	

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Optional Units (cont)				
Mechanics for Construction: An Introduction F3JC 12	Outcomes 1, 2, 3 and 4 may be assessed on an individual basis in open-book conditions with a balance of short answer, restricted-response, graphical-response questions and calculations. Alternatively, All four Outcomes may be assessed as an integrated project in a final, end-of-Unit assessment under similar conditions of maximum three hours duration.			
Mathematics for Construction Technicians H70S 46	All Outcomes may be assessed on an individual basis or all Outcomes together. Evidence should be produced under closed-book, supervised conditions in response to an appropriate set of questions.			

National Certificate Civil Engineering

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Mandatory Units (10 credits needed)				
Civil Engineering Materials H66H 46	The assessment for Outcomes 1 and 2 may be combined on one assessment occasion lasting no more than 2 hours. Assessment of Outcomes 1 and 2 should be carried out under closed-book, controlled and supervised conditions.		Written and/or oral evidence and product evidence is required which demonstrates the learner has achieve Outcome 3 to the standard specified in the Outcome and Performance Criteria. Learners should undertake laboratory tests on **four** materials selected by the centre and submit a minimum of **two** laboratory reports.	
Civil Engineering Project F3JH 12	All Outcomes should be assessed in a single, integrated case study. A significant part of the project can be without close supervision although the assessor may provide guidance and support. While time constraints are relaxed, project work must be carried out within an agreed, set time frame, with pre-determined sanctions in operation when deadlines are not met.			
Civil Engineering Site Work F3J6 12	Outcomes 1, 2 and 3 may be assessed on an individual basis in closed-book conditions with a balance of short answer, restricted-response, graphical-response and extended-response questions. Alternatively, all three Outcomes may be assessed as a Case Study in a final, end-of-Unit assessment under similar conditions.			

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Mandatory Units (cont)				
Civil Engineering Technology F3J7 12	Outcomes 1, 2, 3 and 4 may be assessed on an individual basis in closed-book conditions with a balance of short answer, restricted-response, graphical-response questions and calculations. Alternatively, all four Outcomes may be assessed as a single, integrated assessment event in a final, end-of-Unit assessment under similar conditions of maximum two hours duration.			
Computer Aided Drafting: An Introduction H65V 46	For Outcome 1, learners could be presented with architects/engineers drawings to show the various layouts adopted by different organisations showing various pieces of information such as; name of organisation, person responsible for the drawing, date, amendment number, scale, drawing title, specification/legend. Learners could prepare a drawing template for a given standard size of paper to include title panel and border.	Drawings from Outcome 2 can be presented within the template to an appropriate scale by using layout wizards and viewports. Learners should be guided towards creating two finished drawings of a component/feature relevant to their mode of study.		
Construction Site Surveying: An Introduction F3JM 12	Short answer and/or restricted-response questions under open-book, supervised conditions.	Evidence for Outcomes 2 and 3 is produced in open-book, supervised conditions. The learner will actively participate in practical survey fieldwork events as part of a team and will produce appropriate documentation and drawings to confirm the survey elements.		

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Mandatory Units (cont)				
Mathematics for Construction Technicians H70S 46	All Outcomes may be assessed on an individual basis or all Outcomes together. Evidence should be produced under closed-book, supervised conditions in response to an appropriate set of questions.			
Health and Safety in the Construction Industry H669 46	Outcomes 1 and 2 should be assessed as an integrated, open-book case study.		Short answer and/or restricted-response questions under closed-book, supervised conditions.	Short answer and/or restricted-response questions under closed-book, supervised conditions.
Mathematics: Craft 1 F3HV 11	All five Outcomes may be assessed individually under closed-book, supervised conditions with appropriate short answer and restricted-response questions and calculations or as a single, integrated event of no more than two hours duration.			
Mechanics for Construction: An Introduction F3JC 12	Outcomes 1, 2, 3 and 4 may be assessed on an individual basis in open-book conditions with a balance of short answer, restricted-response, graphical-response questions and calculations. Alternatively, all four Outcomes may be assessed as an integrated project in a final, end-of-Unit assessment under similar conditions of maximum three hours duration.			

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Optional Units (2 credited needed)				
Construction Technology: Groundworks and Substructure H65X 46	Outcomes 1 and 2 should be assessed in an integrated, closed-book assessment consisting of short answer and/or restricted-response questions. In addition, a folio of work for Outcome 2 should be produced in open-book conditions as a natural product of the learning and teaching process.			
Construction Calculations H66G 45	Outcomes 1, 2, 3 and 4 could be assessed in a single, integrated assessment event held under controlled, supervised conditions. The assessment should be closed-book and last no more than two hours.			
Construction Measurement and Costing F3JK 12	Short answer, restricted-response and structured questions under closed-book, supervised conditions.	Short answer, restricted-response and structured questions under closed-book, supervised conditions.	Case study/ project under open-book, supervised conditions.	
Drawing for Construction H66E 45	Freehand graphical assignment in open-book, supervised conditions. Sketches produced as natural products of teaching and learning processes.	Formal graphical assignment in open-book, supervised conditions. Drawings produced as natural products of teaching and learning processes.	Short answer and/or restricted-response questions under closed-book, supervised conditions.	
Environmental Building Science: An Introduction H66F 46	Outcomes 1, 2 and 3 may be assessed on an individual basis in closed-book conditions with a balance of short answer, restricted-response questions and calculations. Alternatively, all three Outcomes may be assessed as a Case Study in a final, end-of-Unit assessment under similar conditions.			

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Optional Units (cont)				
Modern Methods of Construction: An Introduction H66A 46	Outcomes 1, 2 and 3 may be assessed on an individual basis in closed-book conditions with a balance of short answer, restricted-response and structured questions supplemented by sketches/drawings prepared as a natural production of the learning and teaching processes. Alternatively, all three Outcomes may be assessed as a Case Study in a final, end-of-Unit assessment under similar conditions.			
Construction Project Management: An Introduction H65W 46	This assessment will be covered by a short written response for each question. The response should be 100–150 words.	This assessment is divided into two areas whereby learners will be expected to: (a) describe at least eight entries that would be included in a site diary. (b) describe the process which allows the contractor to be paid for work carried out. 100–150 words.	This assessment is divided into two areas whereby learners will be expected to: Describe the advantages of: (a) having regular construction team meetings. 100–150 words (b) having regular project team meetings. 100–150 words.	An appropriate instrument of assessment for Outcome 4 will be a question paper consisting of a balance of short answer and structured questions relating to given project drawings, schedules and programmes.
Sustainability in the Construction Industry H66C 46	Outcomes 1, 2 and 3 may be assessed on an individual basis in open-book conditions with a balance of short answer, restricted-response and structured questions. Alternatively, all three Outcomes may be assessed as a Case Study in a final, end-of-Unit assessment under similar conditions.			

6 Guidance on approaches to delivery and assessment

6.1 Sequencing/integration of Units

The NC Built Environment and NC Civil Engineering are designed to equip students with the knowledge, skills and understanding required to work toward employment as technicians in the built environment or civil engineering sectors and to progress to further or higher education or professional body qualification.

There are many driving forces which determine a full-time delivery programme for any qualification such as, accommodation, staff availability and materials and equipment. It is likely centres would also supplement the 12 credits identified above with additional selected optional Units or other academic content in order to satisfy current government funding strategies. The following tables indicate a suggested delivery programme for each qualification over a two-semester Session.

National Certificate Built Environment	
Suggested Delivery for a Full-time Programme	
Semester 1	**Semester 2**
Construction Technology: Groundworks and Substructure	Construction Site Surveying: An Introduction
Construction Materials: An Introduction	Construction Technology: Superstructure and Finishes
Construction Calculations	Sustainable Design for Architecture: An Introduction
Computer Aided Drafting: An Introduction	Domestic Building Services
Construction Project Management: An Introduction (or other optional Unit)	Environmental Building Science: an Introduction (or other optional Unit)
Health and Safety in the Construction Industry	Built Environment Project

National Certificate Civil Engineering	
Suggested Delivery for a Full-time Programme	
Semester 1	**Semester 2**
Mathematics: Craft 1	Construction Site Surveying: An Introduction
Civil Engineering Technology	Civil Engineering Materials
*Construction Calculations (or other optional Unit)	Sustainability in the Construction Industry (or other optional Unit)
Computer Aided Drafting: An Introduction	Civil Engineering Site Work
Mechanics for Construction: An Introduction	Mathematics for Construction Technicians (or other optional Unit)
Health and Safety in the Construction Industry	Civil Engineering Project
* if this option is not selected, Maths Craft 1 should be in Semester 1	

6.1.1 Delivery

The structures of the qualifications allow for a high degree of flexibility in the delivery mode. They could be offered on full time, block-release, day-release or evening modes. A distance learning delivery mode is possible providing adequate materials, tutorial support and assessment facilities exist. However, delivery and assessment at arms length, of the practical elements of the qualifications, such as site surveying, computer aided drafting and materials testing would present certain challenges. Combination of delivery modes is also a possibility. Such a combined mode of study may enable learners to complete an award in a shorter period of time.

The content of several Units provides the foundation knowledge and skills to enable the learners to engage more effectively with the specialist Units in order to promote greater appreciation of the complexities and relationships of the professions within the industry. An example would be the knowledge gained in the Units — H66G 45 *Construction Calculations*, F3HV 11 *Mathematics: Craft 1* and H66E 45 *Drawing for Construction* which contributes greatly to the skills and *understanding required for Units such as* F3JK 12 *Construction Measurement and Costing* and F3JM 12 *Construction Site Surveying: An Introduction.*

The project Units provide the opportunity for integration of knowledge and skills across a range of Units in the award. Supporting notes with each Unit identify specific opportunities for integration with other Units.

Centres will define the order in which Units are undertaken based on learner recruitment patterns, mode of delivery, resource issues and logical progression dictated by topic and Unit content.

Throughout the awards, emphasis will be placed where appropriate on the application of Health and Safety and Sustainability. Safe working practices should be looked at in accordance with current safety codes of practice and regulations. Sustainability should include reference to criteria affecting sustainability, impact on the environment of not implementing sustainability initiatives and the legislation promoting sustainability.

The award lends itself to a wide range of delivery mechanisms including case studies, formal teaching, tutorial, group work, laboratory/practical work and, where appropriate, work-based learning. Centres should develop clear delivery and assessment strategies taking into account the efficacy of teaching, learning and the use of resources, modes of attendance and the need for a rigorous, but not excessively demanding, assessment regime.

6.1.2 Assessment (reference to Section 5.4)

The assessment strategy is designed to ensure an appropriate level of rigour whilst not imposing excessive demands on centres or learners.

The design principles for NC Built Environment and NC Civil Engineering awards encourage a more holistic approach to assessment and this has been adopted in this award. The new NC specification places the emphasis on assessing the whole Outcome or a combination of Outcomes rather than on individual Performance Criteria. Nonetheless, all stated PCs must be achieved. There is a clear statement of Evidence Requirements in each Unit specification. However, there is also the intention to reduce the assessment loading for both learners and centres.

Each Unit specification includes guidance on delivery and assessment and, where appropriate, any relationship with delivery and assessment of other Units. Requirements for knowledge, skills, sampling, evidence and conduct of assessment are provided for each Outcome in the Unit. Opportunities for integrative assessment across Units are provided and it is generally recommended that topics such as maths and mechanics are assessed within Units that apply fundamental theory to practical applications. Assessment guidance includes a variety of conditions including open/closed-book, case study, etc.

6.1.3 Re-assessment strategy

Process

The way that centres re-assess learners is integral to the way that they manage assessment as a whole and as such, will be subject to internal verification. In order to ensure that the assessment process is as holistic as possible and that assessors are able to judge effectively learners' performance in the Outcome or Unit as a whole, it may not always be possible to re-assess only those parts of the performance in which learners have not satisfactorily demonstrated competence.

Scenarios where learners may require to re-do the whole assessment include:

- Assessments which test knowledge and other cognitive skills and where it may not be possible to extract some of the items for re-assessment.
- Where parts of several Outcomes are involved.
- Where a project has been designed as an integrated assessment and where there is a requirement to complete the project as a single complex task.

Learners may be required to do only part of an assessment, where their evidence has been generated over a period of time and/or a discrete part of the Unit, such as an Outcome, has been assessed originally. This is particularly relevant in the case of a Project, Case Study and Investigative assessment activities.

Re-assessment opportunities

SQA advises that there should normally be one, or in exceptional circumstances two, re-assessment opportunities. (Please refer to SQA's *Guide to Assessment and Quality Assurance for Colleges of Further Education*, for details.)

Eligibility

Learners who have not satisfactorily demonstrated their attainment of Knowledge and/or Skills and/or competence in the whole or only part of an assessment may be considered for re-assessment.

Developing alternate assessments

The design of the original assessments informs the re-assessment process to a large extent, as these determine the type of assessment instruments used and the purpose of the assessment. Normally, centres build up banks of assessments that can be used in whole, or in part, for re-assessment purposes.

Assessment writers should refer to the Unit specification when developing an alternative assessment and ensure that it is of equal demand to the original assessment and that it covers all necessary criteria — for example Core Skill achievement. Where learners have not provided satisfactory evidence for knowledge and/or skill items which have been sampled, they would normally be reassessed on a different sample.

6.2 Recognition of Prior Learning

SQA recognises that learners gain knowledge and skills acquired through formal, non-formal and informal learning contexts.

In some instances, a full Group Award may be achieved through the recognition of prior learning. However, it is unlikely that a learner would have the appropriate prior learning and experience to meet all the requirements of a full Group Award.

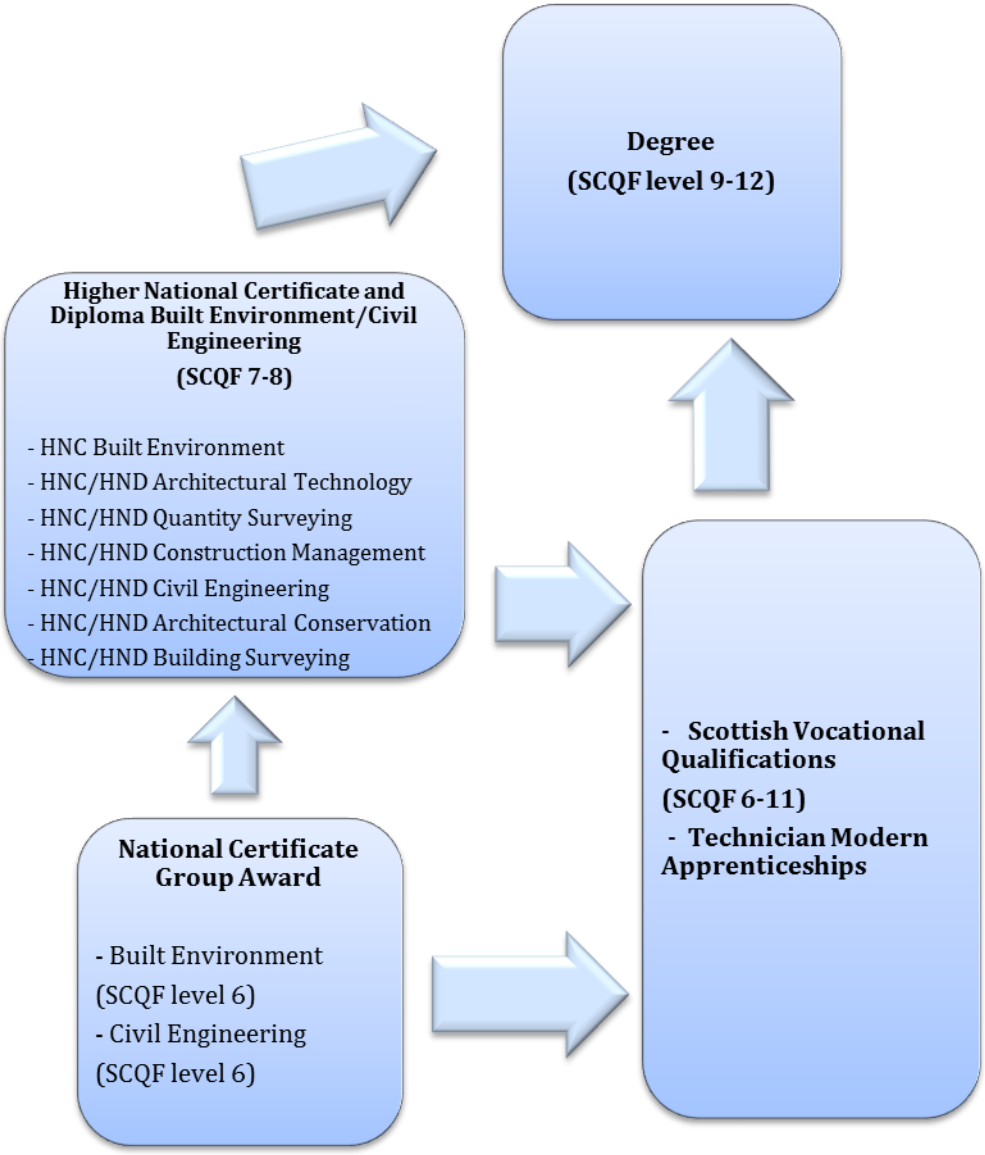
The recognition of prior learning may **not** be used as a method of assessing in the following types of Units and assessments:

- HN Graded Units
- Course and/or external assessments
- Other integrative assessment Units (which may or not be graded)
- Certain types of assessment instruments where the standard may be compromised by not using the same assessment method outlined in the Unit
- Where there is an existing requirement for a licence to practise
- Where there are specific health and safety requirements
- Where there are regulatory, professional or other statutory requirements
- Where otherwise specified in an assessment strategy

More information and guidance on the *Recognition of Prior Learning* (RPL) may be found on our website **www.sqa.org.uk**

The following sub-sections outline how existing SQA Unit(s) may contribute to this Group Award. Additionally, they also outline how this Group Award may be recognised for professional and articulation purposes.

6.2.1 Articulation and/or progression



6.2.2 Transitional Arrangements

It is recommended that learners who are in the process of completing either of the predecessor awards finish it rather than switching to the revised award. However, there may be occasions when it is not possible for learners to complete the existing award, eg where they were unable to complete their studies due to ill health or difficulties with their employer and where the centre has gone on to offer the new award and only one or two Units need to be completed. In these cases it is recommended that the suggested credit transfer arrangements given in 6.2.3 be considered.

6.2.3 Credit transfer

National Certificate Built Environment at SCQF level 6

Current Unit Code	Current Unit Title	New Unit Code	New Unit Title	Credit Transfer
F3JG 11	Building Services in Domestic Low Rise Buildings	H660 45	Domestic Building Services	There is no automatic credit transfer.
	No current Unit	H65X 46	Construction Technology: Groundworks and Substructure	
	No current Unit	H65Y 46	Construction Technology: Superstructure and Finishes	
F3J8 12	Computer Aided Drawing for Construction	H65V 46	Computer Aided Drafting: An Introduction	There is no automatic credit transfer.
F3JL 11	Construction Calculations	H66G 45	Construction Calculations	There is no automatic credit transfer.
F3JB 11	Construction Materials: An Introduction	F3JB 11	Construction Materials: An Introduction	There is no automatic credit transfer.
F3JM 12	Construction Site Surveying: An Introduction	F3JM 12	Construction Site Surveying: An Introduction	Automatic credit transfer
F3JA 12	Health and Safety in the Construction Industry	H669 46	Health and Safety in the Construction Industry	There is no automatic credit transfer.
F3JD 12 F3JF 12	Architectural Project; Building Construction Project	H65S 46	Built Environment Project	There is no automatic credit transfer.
F3JS 12	Sustainability in the Construction Industry	H66C 46	Sustainability in the Construction Industry	There is no automatic credit transfer.
F3J6 12	Civil Engineering Site Work	F3J6 12	Civil Engineering Site Work	Automatic credit transfer.
F3JK 12	Construction Measurement and Costing	F3JK 12	Construction Measurement and Costing	Automatic credit transfer.
F3JN 11	Drawing for Construction	H66E 45	Drawing for Construction	There is no automatic credit transfer.
	No current Unit	H66D 46	Sustainable Design for Architecture	There is no automatic credit transfer.

Current Unit Code	Current Unit Title	New Unit Code	New Unit Title	Credit Transfer
F3JP 12	Properties of Heat, Light and Sound in Construction	H66F 46	Environmental Building Science: An Introduction	There is no automatic credit transfer.
F3HV 11	Mathematics: Craft 1	F3HV 11	Mathematics: Craft 1	Automatic credit transfer
F3JR 12	Modern Methods of Construction	H66A 46	Modern Methods of Construction: An Introduction	There is no automatic credit transfer.
F3JV 12 F3JJ 12	Technical Recording and Reporting in the Construction Industry; Construction Administration	H65W 46	Construction Project Management: An Introduction	There is no automatic credit transfer.
	No current Unit	H66B 46	Structural Concepts: An Introduction	
F3JC 12	Mechanics for Construction: An Introduction	F3JC 12	Mechanics for Construction: An Introduction	Automatic credit transfer.
	No current Unit	H70S 46	Mathematics for Construction Technicians	

National Certificate Civil Engineering at SCQF level 6

Current Unit Code	Current Unit Title	New Unit Code	New Unit Title	Credit Transfer
	No current Unit	H66H 46	Civil Engineering Materials	
F3JH 12	Civil Engineering Project	F3JH 12	Civil Engineering Project	Automatic credit transfer
F3J6 12	Civil Engineering Site Work	F3J6 12	Civil Engineering Site Work	Automatic credit transfer.
F3J7 12	Civil Engineering Technology	F3J7 12	Civil Engineering Technology	Automatic credit transfer.
F3J8 12	Computer Aided Drawing in Construction	H65V 46	Computer Aided Drafting: An Introduction	There is no automatic credit transfer.
F3JM 12	Construction Site Surveying: An Introduction	F3JM 12	Construction Site Surveying: An Introduction	Automatic credit transfer
F3JA 12	Health and Safety in the Construction Industry	H669 46	Health and Safety in the Construction Industry	There is no automatic credit transfer.
F3HV 11	Mathematics: Craft 1	F3HV 11	Mathematics: Craft 1	Automatic credit transfer

National Certificate Civil Engineering at SCQF level 6 (cont)

Current Unit Code	Current Unit Title	New Unit Code	New Unit Title	Credit Transfer
F3JC 12	Mechanics for Construction: An Introduction	F3JC 12	Mechanics for Construction: An Introduction	Automatic credit transfer.
	No current Unit	H65X 46	Construction Technology: Groundworks and Substructure	
F3JL 11	Construction Calculations	H66G 45	Construction Calculations	There is no automatic credit transfer.
F3JK 12	Construction Measurement and Costing	F3JK 12	Construction Measurement and Costing	Automatic credit transfer.
F3JN 11	Drawing for Construction	H66E 45	Drawing for Construction	There is no automatic credit transfer.
F3JP 12	Properties of Heat, Light and Sound in Construction	H66F 46	Environmental Building Science: An Introduction	There is no automatic credit transfer.
F3JR 12	Modern Methods of Construction	H66A 46	Modern Methods of Construction: An Introduction	There is no automatic credit transfer.
F3JV 12 F3JJ 12	Technical Recording and Reporting in the Construction Industry; Construction Administration	H65W 46	Construction Project Management: An Introduction	There is no automatic credit transfer.
F3JS 12	Sustainability in the Construction Industry	H66C 46	Sustainability in the Construction Industry	There is no automatic credit transfer.

6.3 Opportunities for e-assessment

E-assessment may be appropriate for some elements in these Awards. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence.

The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at **www.sqa.org.uk/e-assessment**

6.4 Support materials

Assessment Support Packs (ASPs) will be available for the majority of Units within these awards. The ASPs will contain all relevant information on appropriate instruments of assessment, guidance to centres and learners and marking guidelines. Centres are expected to use these exemplars as templates when producing further assessment instruments. Centrally devised Assessment Support Packs will be available to centres for the next academic session (August 2014) and will be available to download from the SQA secure website.

6.5 Resource requirements

Much of the content of these NC qualifications can be delivered in a traditional academic learning and teaching environment. However, certain Units demand specialist resources and equipment to ensure proper coverage of vocational and technical content.

F3JB 11 *Construction Materials: An Introduction*
H66H 46 *Civil Engineering Materials*
Access to a materials testing laboratory would be required along with an appropriate selection of construction materials to ensure the Outcomes of the 'Materials' Units could be met.

F3JM 12 *Construction Site Surveying: An Introduction*
Construction Site Surveying: An Introduction requires an array of land surveying equipment in sufficient quantity to permit learners to operate in small groups and in turn, contribute to the group dynamic.

H65V 46 *Computer Aided Drafting: An Introduction*
Access to a computer suite is essential. A selection of software is required, to allow word-processing and CAD activities. Internet access is essential to enhance research activities.

Investment in a selection of appropriate, construction-specific texts and journals would provide a comprehensive and balanced resource pool which, in turn, would ensure a broad and effective learning environment for the learner.

7 General information for centres

Equality and inclusion

The Unit specifications making up this Group Award have been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners will be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence. Further advice can be found on our website **www.sqa.org.uk/assessmentarrangements**

Internal and external verification

All instruments of assessment used within this/these qualification(s) should be internally verified, using the appropriate policy within the centre and the guidelines set by SQA.

External verification will be carried out by SQA to ensure that internal assessment is within the national guidelines for these qualifications.

Further information on internal and external verification can be found in *SQA's Guide to Assessment* **(www.sqa.org.uk/GuideToAssessment)**.

8 Glossary of terms

Embedded Core Skills: is where the assessment evidence for the Unit also includes full evidence for complete Core Skill or Core Skill components. A learner successfully completing the Unit will be automatically certificated for the Core Skill. (This depends on the Unit having been successfully audited and validated for Core Skills certification.)

Finish date: The end of a Group Award's lapsing period is known as the finish date. After the finish date, the Group Award will no longer be live and the following applies:

- learners may not be entered for the Group Award
- the Group Award will continue to exist only as an archive record on the Awards Processing System (APS)

Lapsing date: When a Group Award is entered into its lapsing period, the following will apply:

- the Group Award will be deleted from the relevant catalogue
- the Group Award specification will remain until the qualification reaches its finish date at which point it will be removed from SQA's website and archived
- no new centres may be approved to offer the Group Award
- centres should only enter learners whom they expect to complete the Group Award during the defined lapsing period

SQA Credit Value: The credit value allocated to a Unit gives an indication of the contribution the Unit makes to an SQA Group Award. An SQA credit value of 1 given to an SQA Unit represents approximately 40 hours of programmed learning, teaching and assessment.

SCQF: The Scottish Credit and Qualification Framework (SCQF) provides the national common framework for describing all relevant programmes of learning and qualifications in Scotland. SCQF terminology is used throughout this guide to refer to credits and levels. For further information on the SCQF visit the SCQF website at **www.scqf.org.uk**

SCQF credit points: SCQF credit points provide a means of describing and comparing the amount of learning that is required to complete a qualification at a given level of the Framework. One National Unit credit is equivalent to 6 SCQF credit points. One National Unit credit at Advanced Higher and one Higher National Unit credit (irrespective of level) is equivalent to 8 SCQF credit points.

SCQF levels: The level a qualification is assigned within the framework is an indication of how hard it is to achieve. The SCQF covers 12 levels of learning. HNCs and HNDs are available at SCQF levels 7 and 8 respectively. Higher National Units will normally be at levels 6–9 and Graded Units will be at level 7 and 8. National Qualification Group Awards are available at SCQF levels 2–6 and will normally be made up of National Units which are available from SCQF levels 2–7.

Subject Unit: Subject Units contain vocational/subject content and are designed to test a specific set of knowledge and skills.

Signposted Core Skills: refers to opportunities to develop Core Skills arise in learning and teaching but are not automatically certificated.

Qualification Design Team: The QDT works in conjunction with a Qualification Manager to steer the development of the National Certificate from its revision through to validation. The group is made up of key stakeholders representing the interests of centres, employers, universities and other relevant organisations.

History of changes

It is anticipated that changes will take place during the life of the qualification, and this section will record these changes. This document is the latest version and incorporates the changes summarised below.

Version number	Description	Date
02	Mandatory optional Unit added (HG51 45- Construction Engineering Mathematics) to Civil Engineering GJ4G 46.	11/10/2016

Acknowledgement

SQA acknowledges the valuable contribution that Scotland's Colleges have made to the development of National Qualification Group Awards(***Note to Writer:*** *insert product type*) qualifications.

9 General information for learners

This section will help you decide whether this is the qualification for you by explaining what the qualification is about, what you should know or be able to do before you start, what you will need to do during the qualification and opportunities for further learning and employment.

The National Certificate Built Environment is mainly a knowledge-based qualification which requires you to spend the majority of your time in a classroom location as well as participating in local site visits, research and fieldwork from which you will be able to demonstrate:

1 responding to the requirements of a design brief.
2 considering sustainability as fundamental in the building design process.
3 carrying out a technical appraisal of a construction site.
4 appraising structural options in response to site constraints.
5 appraising design options against given criteria.
6 comparing building systems — traditional and modern.
7 meeting current legislative requirements in the construction industry.
8 specifying materials and components.
9 applying CAL and CAD skills in support of learning.
10 speaking, writing, calculating, inter-relating, self-developing.

The NC the Built Environment is designed to equip you with the knowledge, understanding and skills to allow you to work toward employment in the construction industry, eg:

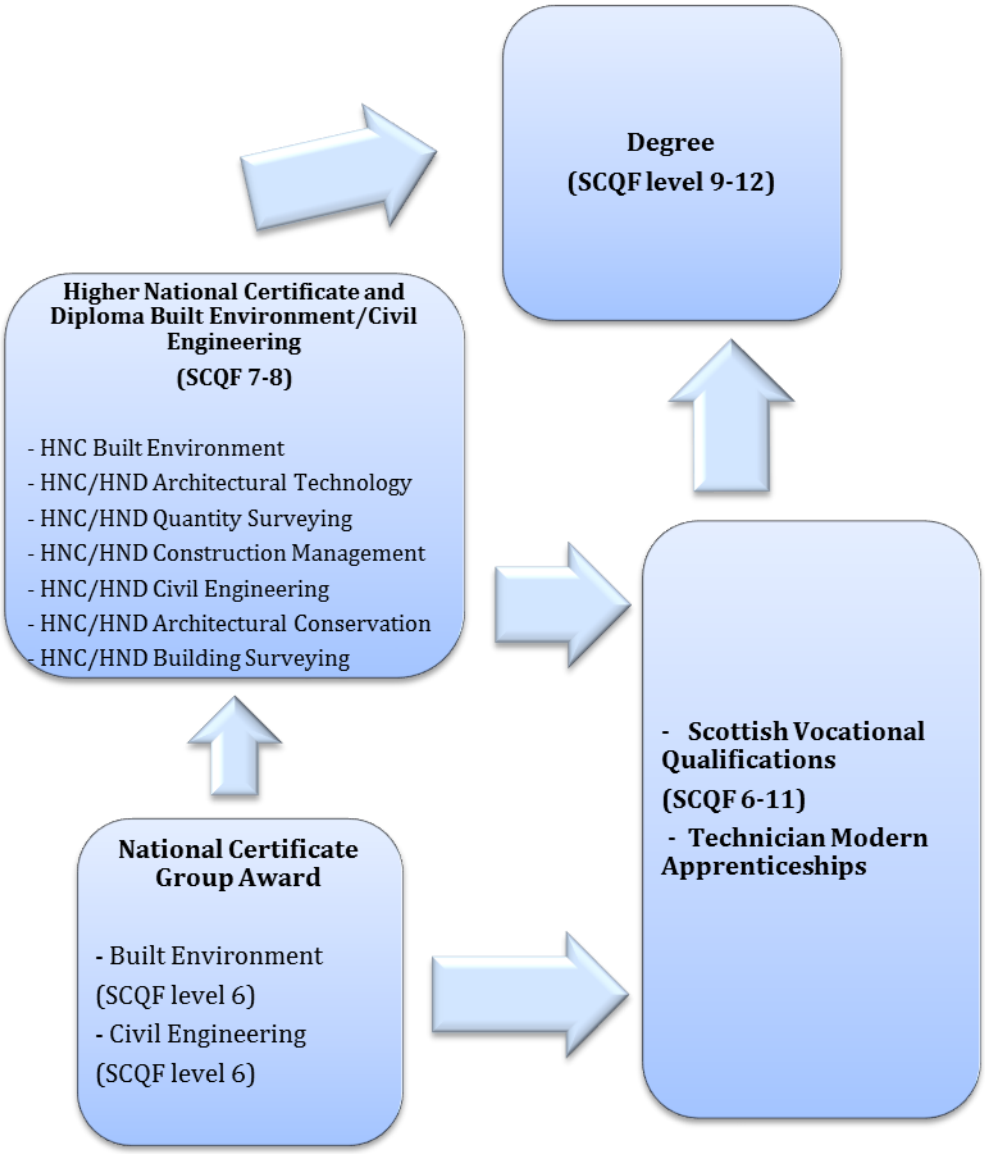
- Architectural Technician
- Construction Technician
- Materials Technician
- Quantity Surveying Technician
- Land Surveyor
- Buyer
- Planner
- Estimator

The National Certificate Civil Engineering is mainly a knowledge-based qualification which requires you to spend the majority of your time in a classroom location as well as participating in local site visits, research and fieldwork from which you will be able to demonstrate:

1 how civil engineering materials are produced and tested to establish properties.
2 how to carry out site investigations and site surveys.
3 how to carry out preliminary siteworks and temporary works on site.
4 selection of plant and equipment for various activities on site.
5 understanding of foundation, steel and concrete frame construction.
6 how Health and Safety impacts on all elements of construction.
7 how to operate and manipulate IT and drawing software.
8 use differing forms of communications to manage elements of construction projects.

The NC Civil Engineering is designed to equip you with the knowledge, understanding and skills to allow you to work toward employment in the construction industry, eg:

- Civil Engineering Technician
- Materials Technician Quantity Surveying Technician
- Land Surveyor
- Buyer
- Planner
- Estimator



If you wish to investigate career opportunities in the construction industry you can contact Construction Skills at **www.citb.org.uk**

Each National Certificate requires you to achieve a minimum of 12 credits by completion of all mandatory Units and the required number of optional Units. You may of course, undertake additional Units (credits) to add to your portfolio and these also will be credited to you in your certification.

You will be assessed on your knowledge and skills developed in each Unit. The assessment may take a number of forms, including structured questions, sketching and drawing, design calculations, tasks with checklists, project portfolio production and other activities when working in teams.