



**Arrangements for:**  
**National Certificate in Civil Engineering**  
**at SCQF level 6**

**Group Award Code: G8Y2 46**

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## **Acknowledgement**

SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of National Qualification Group Awards.



## Contents

1	Introduction.....	1
2	Rationale for the development of the Group Award.....	1
3	Aims of the Group Award .....	3
3.1	Principal aims of the Group Award.....	3
3.2	General aims of the Group Award.....	3
3.3	Target groups.....	3
3.4	Employment opportunities .....	4
4	Access to Group Award.....	4
5	Group Award structure .....	4
5.1	Framework.....	4
5.2	Mapping information.....	14
5.3	Articulation, professional recognition and credit transfer .....	14
6	Approaches to delivery and assessment.....	15
6.1	Content and context.....	15
6.2	Delivery .....	15
6.3	Assessment .....	16
6.4	Re-assessment strategy.....	16
7	General information for centres.....	17
8	General information for candidates .....	18
9	Glossary of terms .....	18

# 1 Introduction

This is the Arrangements Document for the new Group Award in Civil Engineering, at SCQF level 6, which was validated in February 2008. This document includes: background information on the development of the Group Award, its aims, guidance on access, details of the Group Award structure, and guidance on delivery.

Civil Engineering embraces construction, construction engineering, structural engineering and there are many specialist areas within civil engineering.

Civil Engineering is closely linked with the Built Environment. In order to maximise the potential for commonality of objective, structure and delivery, the two development processes have been very closely linked.

'FutureSkills Scotland', a Scottish Sector Skill Profile 2005, was published by the Construction Industry Training Board, Highlands and Islands Enterprise and Scottish Enterprise. The FutureSkills report embraces the Built Environment disciplines within the category of Construction. The data available at [www.futureskillsscotland.org.uk](http://www.futureskillsscotland.org.uk) provides a broad skill analysis indicating generally that:

There are around 17,300 construction sector workplaces in Scotland, employing 137,900 people — about 6% of all Scottish jobs.

## 2 Rationale for the development of the Group Award

Since the previous implementation of the SQA National Certificate provision in Civil Engineering there have been many changes in technology and practice arising from socio-economic, environmental and cultural factors.

A scoping exercise was carried out in April 2006 to look at the national qualifications across the construction industries. Feedback regarding technician awards was that there was a requirement for awards at both SCQF level 5 and 6 in this area.

Questionnaires were sent to 84 construction centres and several delivering centres and verifiers were interviewed. Some feedback was received with regard to the development of National Certificates in Civil Engineering and Build Environment and as part of the National Qualifications Portfolio Review the development of these awards was arranged.

A further centre consultation during the development was carried out in January 2007 giving centres the opportunity to comment on the proposed framework. Questionnaires were sent to 36 colleges and we received a 30% response. Feedback highlighted a change to the framework which was discussed by the design team and agreement reached on the final framework.

Consultations have evidenced a need for an appropriate qualification at National Certificate level in the Civil Engineering to satisfy the requirements of employers, full and part-time college markets and articulation to Further and Higher Education.

Currently, only the PDA in Civil Engineering exists in the Civil Engineering discipline in Scotland. Several centres provide a range of nationally devised Units that provide access to a range of HN programmes. This new National Certificate in Civil Engineering is designed as a stand-alone qualification to equip candidates with the knowledge, skills and understanding required for employment or for progression to further academic and/or professional qualifications.

A suite of HNC and HND programmes were validated in July 2006. This National Certificate has been designed as the exemplar articulation route to that suite of awards and as a stand-alone, work-related qualification. The HNC/HND awards have recently been redesigned with a focus on teaching and learning linked to a rigorous assessment strategy. The new National Certificate in Civil Engineering is an access route into the HNC/HND awards and as such must provide concordant skills and knowledge for entry into the higher level courses and beyond. This award will recognise the achievements of successful candidates with a national Group Award thus improving the current situation where for more than a decade locally devised programmes with varied content have been provided throughout the regions.

The National Certificate in Civil Engineering has been designed to provide:

- ◆ a national qualification, with detailed standards, learning Outcomes and Unit grading recognisable to centres, candidates, employers and professional bodies
- ◆ a core of study
- ◆ a choice of optional Units appropriate to the main career disciplines of the Civil Engineering sector
- ◆ a flexible approach within the national framework
- ◆ the opportunity to preserve and build upon existing good practice
- ◆ compatibility with HN awards in appropriate disciplines
- ◆ a response to changing training and educational needs
- ◆ a preparation for employment
- ◆ a contribution to the skills, knowledge and understanding required to underpin relevant SVQs
- ◆ progression, primarily to the point of entry to appropriate HN programmes

In the design of the programme, employer needs are balanced with the necessity to provide candidates with the opportunity to maximise their potential to achieve a widely recognised qualification and to progress within the industry or to further academic study.

The need for technician awards to be enabling, relevant and to add value is recognised in recent industry reports. The proposed award offers this and in addition presents maximum flexibility for learners, employers and educational establishments. This should increase the attractiveness and availability of the proposed qualification.

Finally the rapid change in technology and practices within the construction and civil engineering sectors requires regular review in the content of vocational training. Thus the content of the proposed national certificate updates the relevancy of the Units within the framework of Units.

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### **3 Aims of the Group Award**

#### **3.1 Principal aims of the Group Award**

The Award should:

- ◆ prepare candidates for a range of technical and managerial careers in the Civil Engineering disciplines
- ◆ provide specialised studies which build upon previous study and work-based experience, and are directly relevant to the individual vocations and professions in which candidates are working or in which they intend to seek employment
- ◆ enable candidates to make an immediate contribution in employment in one of the Civil Engineering disciplines

#### **3.2 General aims of the Group Award**

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

#### **3.3 Target groups**

The National Certificate programme is suitable for a wide range of candidates including:

- ◆ school leavers
- ◆ candidates with a National Certificate in a related discipline who wish to retrain in one of the technical disciplines
- ◆ adult returners to education
- ◆ candidates in employment who wish to enhance their career prospects
- ◆ candidates with craft qualifications who wish to transfer to technical and managerial roles

### 3.4 Employment opportunities

Candidates could be employed as technical trainees in civil engineering disciplines and will undertake the National Certificate on a part-time basis. The award can help prepare candidates for progression to technician, incorporated and beyond to eventually chartered status and managerial careers in their chosen profession. The National Certificate is suitable for those returning to work or transferring from other sectors and could be delivered on a full-time basis if the programme was combined with some preparatory Units in order to familiarise the candidate with the industry.

Employment opportunities exist within the broad array of technical disciplines in the industry. Private, local authority, government, military and academic employers are involved within the sector.

## 4 Access to Group Award

As with all SQA qualifications, access to the award will be at the discretion of the centre. The following recommendations are for guidance only.

National Certificate programmes are intended primarily, for people who are in, or plan to enter employment. Candidates who enter with at least one of the following recommendations are likely to benefit more readily from the programme:

- ◆ three Standard Grades in appropriate English, science, maths or technical subjects
- ◆ a National Certificate in a related discipline
- ◆ those with other entry qualifications, including work experience, who demonstrate a realistic chance of success
- ◆ a craft qualification which might be combined with appropriate further study prior to, or in parallel with, the NC programme

## 5 Group Award structure

### 5.1 Framework

Unit title	Code	SCQF credit points	SCQF level	SQA credit value
Civil Engineering Technology	F3J7 12	6	6	1
Computer Aided Drawing in Construction	F3J8 12	6	6	1
Construction Materials: Properties and Testing	F3J9 12	6	6	1
Health and Safety in the Building Industry	F3JA 12	6	6	1
Construction materials: An Introduction	F3JB 11	6	5	1
Mathematics: Craft 1	F3HV 11	6	5	1
Mechanics for Construction: An Introduction	F3JC 12	6	6	1
Civil Engineering Site Work	F3J6 12	6	6	1

Unit title	Code	SCQF credit points	SCQF level	SQA credit value
<b>Optional Units (minimum of 4 credits required)</b>				
Architectural Project	F3JD 12	6	6	1
Building Design and Technology	F3JE 12	6	6	1
Building Construction Project	F3JF 12	6	6	1
Building Services in Domestic Low-rise Buildings	F3JG 11	6	5	1
Civil Engineering Project	F3JH 12	6	6	1
Construction Administration	F3JJ 12	6	6	1
Construction Measurement and Costing	F3JK 12	6	6	1
Construction Calculations	F3JL 11	6	5	1
Construction Site Surveying: An Introduction	F3JM 12	6	6	1
Drawing for Construction	F3JN 11	6	5	1
Properties of Heat, Light and Sound in Construction	F3JP 12	6	6	1
Modern Methods of Construction	F3JR 12	6	6	1
Sustainability in the Building Industry	F3JS 12	6	6	1
Working Across Construction Specialisms	F3JT 12	6	6	1
Technical Recording and Reporting in the Construction Industry	F3JV 12	6	6	1

This profile fulfils the requirements of employers by including new technologies and also optional Units in Working Across Construction Specialisms, modern methods of construction, technical communications skills and sustainability and building performance. School leavers have the opportunity to enhance problem solving, technical communications and manual construction drawing skills with optional level 5 Units.

The qualification is targeted at both part time students-employed technicians and aspiring technicians in employment, and also at full time students (school leavers) who can combine this award with the national certificate in the built environment Units to form a year long course which provides a maximum career choice programme prior to entry to employment or to higher education in civil and structural engineering.

### **Core Skills signposting**

All elements of the Core Skill of *Problem Solving* — Critical Thinking, Planning, Organising, Reviewing and Evaluating — are enhanced and contextualised as the award is undertaken. In depth critical thinking has to be applied as all factors affecting practical civil engineering work are identified and analysed. Decisions will be made on sustainable approaches, technologies and materials suited in line with legal, organisational and safety regulations and requirements. Planning, designing and presenting solutions to meet needs and maximise resources effectively involves the ability to adapt and modify approaches as needed. Effectiveness of design and construction solutions selected is formally reviewed, evaluated and documented.

The ability to calculate and consider the implications of data presented numerically and graphically underpins the competencies developed in the award. Candidates have to be skilled in the practical interpretation, calculation and presentation of numbers with an emphasis on *Numeracy* as a tool to be used and applied efficiently and critically in work related contexts. Accuracy and effectiveness in the application and communication of graphic information across all Units in the award develops abilities in sketching and drawing. Use of current CAD software packages relevant to Civil Engineering work is assessed. Skills in the use of *Information Technology* are also essential in the effective researching and referencing up to date technical information. Presentation of formal reports will benefit from efficient electronic systems of recording, coding and storing information as well as software support. Responsible use of equipment, and consideration of security and the needs of users will be routine practice. Technology skills may be further strengthened by the provision of online coaching, guidance and support for learners.

Candidates will explore ways of enhancing skills in *Communication* and *Working with Others* in practical contexts as they undertake the award. The ability to research, interpret and communicate complex information effectively in graphic and written formats is an aspect of competence. Formative group work during analysis of case studies, site visits and laboratory testing will provide opportunities to co-operate with a range of people, using professional terminology in work related contexts. Candidates will be able to practise complex verbal and non-verbal communication techniques and listen and respond to comment and questions in ways that progress communication with others. Awareness of strategies to promote good team relationships is essential to underpin the identification, management and resolution of any issues which could have an adverse impact on practical civil engineering work.

The Units which comprise the award will provide candidates with many opportunities to develop and apply relevant aspects of the Core Skills at SCQF level 6. Some detailed examples are highlighted in the following grid.

## Problem Solving (SCQF level 6)

### Critical Thinking

- ◆ Analyse a complex situation or issue

### Planning and Organising

- ◆ Plan, organise and complete a complex task

### Reviewing and Evaluating

- ◆ Review and evaluate a complex problem solving activity

Unit	Knowledge/Skills/Evidence	CT	PO	RE
<b>Civil Engineering Technology</b>	Analysis and evaluation of requirements and limitations in the development of a major construction project from initial site work through to the completion of the skeleton frame of a building.	✓	✓	✓
<b>Health and Safety in the Building Industry</b>	Identification and analysis of all relevant factors, including current legislation, in the promoting and implementing of safe working practices. Risk assessment and procedures in the event of fire or accident.	✓	✓	✓
<b>Modern Methods of Construction</b>	Analysis of efficiencies and contributions to sustainability which may be achieved by modern methods of construction in housing and non housing sectors.	✓	✓	✓
<b>Civil Engineering Project</b>	Planning, development, implementation and evaluation of a complex civil engineering project to a given brief.	✓	✓	✓
<b>Sustainability in the Building Industry</b>	Explanation and evaluation of ways to maximise the benefits of sustainability and overcome any potential difficulties or limitations in a range of construction contexts.	✓	✓	✓
<p><b>Across the award candidates have to identify essential limitations and devise and justify strategies for sustainable 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.</b></p>				

## Numeracy (SCQF level 6)

### Using Number

- ◆ Apply a wide range of numerical skills

### Using Graphical Information

- ◆ Interpret and communicate graphical information in everyday and generalised contexts

Unit	Knowledge/Skills/Evidence	a	b
<b>Computer Aided Drawing in Construction</b>	Accuracy and effectiveness in the interpretation, calculation and communication of information in graphic form underpins the competencies developed.	✓	✓
<b>Construction Materials: Properties and Testing</b>	Data on common materials is analysed, interpreted and presented accurately and effectively, using tables and graphs.	✓	✓
<b>Civil Engineering Technology</b>	Ability to communicate effectively in sketches, and to perform and convert calculations to a practical arrangement is formally assessed.	✓	✓
<b>Mechanics for Construction</b>	Candidates interpret, calculate and communicate solutions relating to forces, stress and strain, together with their application in elements of structural analysis.	✓	✓
<b>Construction Site Surveying</b>	Interpretation of data from site plans developed for individual construction projects and from Ordnance Survey maps and plans. Practical survey and production of a site plan, contour plan and section.	✓	✓
<p><b>The ability to interpret, apply and communicate complex numerical and graphical information is integral to achievement across the award. Data on construction materials and structures is analysed, calculated and presented accurately, using text, tables and graphs.</b></p>			

## Using Information Technology (SCQF level 6)

### Use an IT system independently to process a range of information

- ◆ Use a range of IT equipment paying attention to security and other users
- ◆ Resolve a simple hardware or software problem
- ◆ Use software in an unfamiliar context requiring analysis, design, integration of data
- ◆ Carry out searches to extract and present information from electronic sources

Unit	Knowledge/Skills/Evidence	a	b	c	d
<b>Computer Aided Drawing in Construction</b>	Interpretation and production of graphic and statistical data using professional software packages and applications.	✓	✓	✓	✓
<b>Health and Safety in the Building Industry</b>	Accessing current background information from various sources including electronic to assure understanding of safety promotion and procedures.	✓	✓	✓	✓
<b>Civil Engineering Project</b>	Research for and effective presentation of a 3,000–5,000 word report with supporting graphics.	✓	✓	✓	✓
<b>Sustainability in the Building Industry</b>	Internet research on sustainability concerns, history, materials and case studies could contribute to essential underpinning knowledge.				
<p><b>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. On line 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.</b></p>					

## Communication (SCQF level 6)

### Written Communication (Reading)

- ◆ Analyse and summarise significant information, ideas and supporting detail
- ◆ Evaluate effectiveness in meeting purpose and needs of readership

Core Units	Knowledge and Skills/Evidence	a	b
<b>Health and Safety in the Building Industry</b>	Awareness and understanding of factual information, current theories and related industry developments is essential. Detailed awareness of the full range of relevant Standards and Legislation essential to industry practice.	✓	✓
<b>Sustainability in the Building Industry</b>	Research into background, history, underlying theories and philosophy, and current information on complex Sustainability issues and approaches.	✓	✓
<b>Modern Methods of Construction</b>	In depth understanding of modern developments in methodology and materials requires on going updates.	✓	✓
<b>Construction Administration</b>	Underpinning knowledge — Communication theory and formal procedures for the construction site. Analytical responses to case studies.	✓	✓
<p><b>Understanding statutory and regulatory responsibilities and controls including Building Control, Planning, Environmental Protection and British / European Standards is critical to achievement. Access to essential Learning Resources, electronic and paper based, will include technical literature, text books and manufacturers' guides which will supplement notes provided by centres and underpin course delivery and personal research.</b></p>			

## Written Communication (Writing)

### Produce well-structured Written Communication on a complex topic

- ◆ Present essential ideas/information in a logical order
- ◆ Use a structure which takes account of purpose/links points for clarity and impact
- ◆ Use conventions which are effective for audience
- ◆ Use accurate spelling, punctuation, sentence structures
- ◆ Vary sentence structure, paragraphing, vocabulary to suit purpose and target audience

Unit	Knowledge/Skills/Evidence	a	b	c	d	e
<b>Health and Safety in the Building Industry</b>	Structured responses which are coherent, formally expressed and provide essential ideas and information using accurate vocational terminology.	✓	✓	✓	✓	✓
<b>Construction Materials: Properties and Testing</b>	Outcome 3: well structured and technically accurate Laboratory report.	✓	✓	✓	✓	✓
<b>Civil Engineering Project</b>	A formal structured and referenced 3,000–5,000 word report with supporting correctly annotated graphics.	✓	✓	✓	✓	✓
<b>Sustainability in the Building Industry</b>	Structured analytical responses which are coherent, formally expressed and use correct technical terminology appropriately.	✓	✓	✓	✓	✓
<b>Modern Methods of Construction</b>	Written evidence on the advantages of modern methods in meeting efficiencies in housing construction, industrial/commercial construction and sustainability.	✓	✓	✓	✓	✓
<p><b>Skills developed during the course will include the ability to produce and present accurate, well presented 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.</b></p>						

## Oral Communication

### Produce and respond to oral Communication on a complex topic

- ◆ Use vocabulary and a range of spoken language structures consistently and effectively with appropriate formality
- ◆ Convey all essential ideas/information/opinions accurately and coherently with appropriate varied emphasis
- ◆ Structure to take account of purpose and audience
- ◆ Take account of situation and audience during delivery
- ◆ Respond to others taking account of their contribution

Unit	Knowledge/Skills/Evidence	a	b	c	d	e
<b>Modern Methods of Construction</b>	Formative work could include site visits with the opportunity to analyse and evaluate issues using technical terms in a practical context.	✓	✓	✓	✓	✓
<b>Building Construction Project</b>	Presentation of planning information using assessor feedback for evaluation of effectiveness of proposed practical work.	✓	✓	✓	✓	✓
<b>Construction Administration</b>	Procedures for formal administrative operation such as site meetings — detail of record keeping for oral agreements.	✓	✓	✓		
<b>Sustainability in the Building Industry</b>	Formative discussion of the principles and practice of sustainability, using technical language.	✓	✓	✓	✓	✓
<p><b>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. Candidates 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.</b></p>						

## Working with Others (SCQF level 6)

### Work with Others in a group to analyse, plan and complete an activity

- ◆ Analyse the activity and identify component tasks and roles
- ◆ Agree allocation of activities taking account of group strengths and weaknesses
- ◆ Support co-operative working
- ◆ Evaluate and draw conclusions about own contribution, justifying with evidence

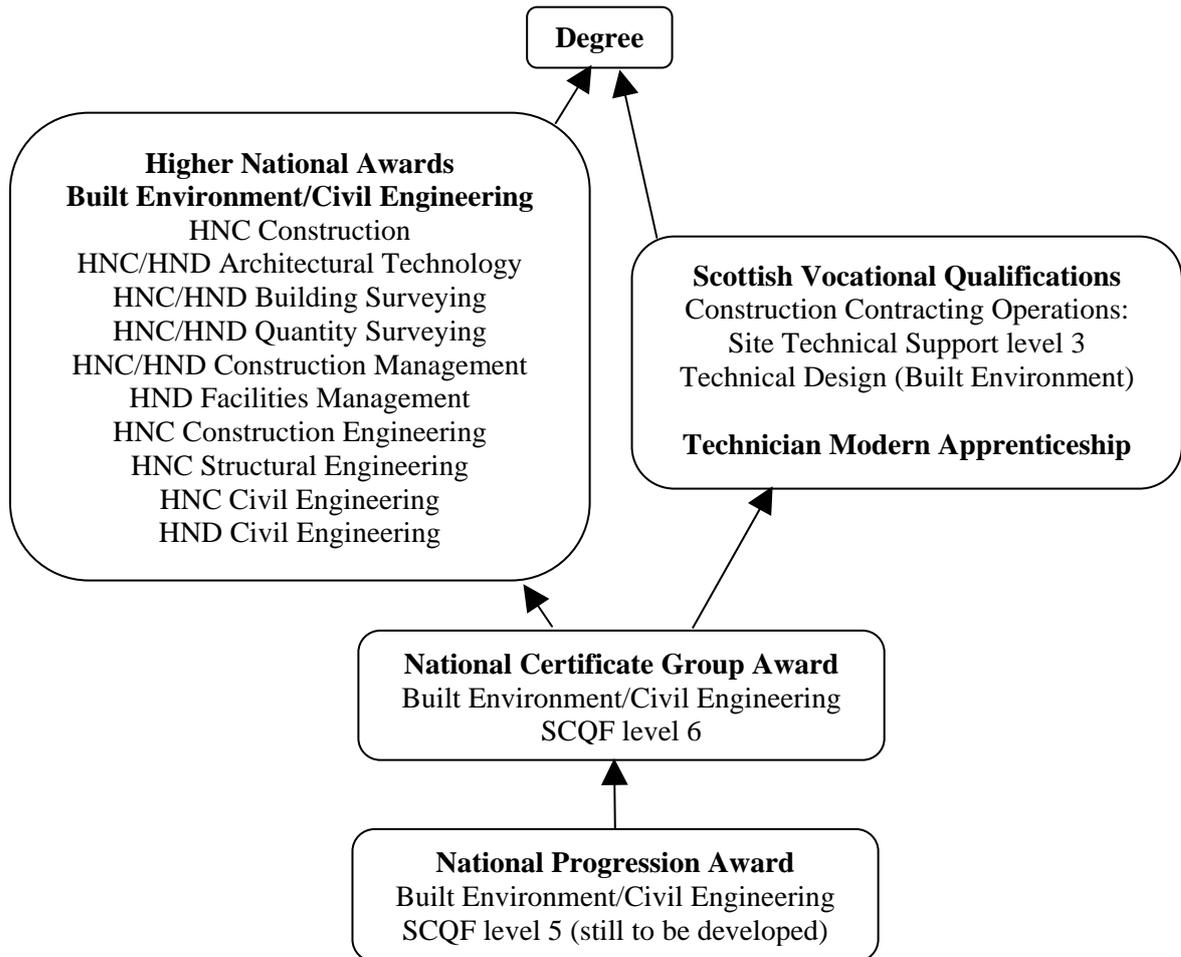
Unit	Knowledge/Skills/Evidence	a	b	c	d
<b>Civil Engineering Site Work</b>	Formative work and visits are designed to analyse needs and agreement on team contributions to security, safety, monitoring and evaluation of progress.	✓	✓	✓	✓
<b>Health and Safety in the Building Industry</b>	Candidates work formatively on case studies identifying the relevance of team co-operation in promoting and implementing safe working practices.	✓	✓	✓	✓
<b>Construction Materials: Properties and Testing</b>	Practical laboratory testing of materials and their properties provides an environment in which to work in groups, review and evaluate the process.	✓	✓	✓	
<b>Working Across Construction Specialisms</b>	Underpinning theory outlining needs, strategies and benefits of co-operative working with a range of others.	✓	✓	✓	✓
<b>Construction Administration</b>	Theory on working relationships in the construction team and understanding of administrative operation including site meetings is assessed through case studies.	✓	✓	✓	
<p><b>Small group activities as part of formative work will support candidates 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.</b></p>					

## 5.2 Mapping information

As this award will underpin the SVQ awards in the Technician Modern Apprenticeship, Construction Skills have carried out a matching exercise to the National Occupational Standards.

## 5.3 Articulation, professional recognition and credit transfer

Progression opportunities exist for candidates to achieve higher level academic and professional qualifications.



## 6 Approaches to delivery and assessment

### 6.1 Content and context

The NC award in Civil Engineering is designed to equip students with the knowledge, skills and understanding required to gain employment as a technician in the built environment sector and to progress to further or higher education or professional body qualification.

### 6.2 Delivery

The structure of the qualification allows for a high degree of flexibility in the delivery mode. The award 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. Combination of delivery modes is also a possibility. Such a combined mode of study may enable candidates to complete the award in a shorter period of time.

There are opportunities for integrative delivery of Units within this award. Candidates should be given the opportunity to visit sites which could be used as case studies for several Units. Knowledge and skills gained could be transferable to other Units within the award. An example of this would be the knowledge gained in the Unit *Maths: Craft 1* being used in the delivery of the Units *Mechanics for Construction: An Introduction*, *Introduction to Materials and Construction Materials: Performance and Testing*.

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.

Units such as Health and Safety in the Building Industry and Sustainability in the Building Industry could be integrated throughout the award as health and safety and sustainability are of particular importance in the building industry

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

Provided that adequate material and tutorial expertise existed the award could be delivered by Open/Distance learning as well as on an online basis. Centre-devised supervision agreements should detail controlled conditions to ensure authenticity of evidence.

Throughout the award 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 of not implementing sustainability initiatives on the environment 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.

### **6.3 Assessment**

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

The new design principles for NC 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. There is also the intention to reduce the assessment loading for both candidates and centres. Unit definitions allow the use of 'sampling' of knowledge and/or skills where appropriate.

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 is 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.

Assessment Support Packs (ASPs) will be available for all Units within this award. The ASPs will contain all relevant information on appropriate instruments of assessment, guidance to centres and candidates 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 2008) and will be available to download from the SQA secure website.

### **6.4 Re-assessment strategy**

#### **Process**

The way that centres re-assess candidates is integral to the way that they manage assessment as a whole and as such, will be subject to internal moderation. In order to ensure that the assessment process is as holistic as possible and that assessors are able to judge effectively candidates' 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 candidates have not satisfactorily demonstrated competence. Scenarios where candidates 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.

Candidates 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**

Candidates 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 candidates have not provided satisfactory evidence for knowledge and/or skill items which have been sampled, they would normally be re-assessed on a different sample.

## **7 General information for centres**

### **Candidates with disabilities and/or additional support needs**

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering alternative Outcomes for Units. Further advice can be found in the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* ([www.sqa.org.uk](http://www.sqa.org.uk)).

### **Internal and external verification**

All instruments of assessment used within this/these Group Award(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 and Quality Assurance for Colleges of Further Education* ([www.sqa.org.uk](http://www.sqa.org.uk)).

## 8 General information for candidates

The National Certificate in Civil Engineering and the Built Environment is mainly knowledge based which requires you to spend the majority of your time in a classroom location as well as participating in local site visits.

The NC is designed to equip you with the knowledge, understanding and skills to allow you to gain employment in the construction industry, or to progress to a higher level qualification.

Occupations are available with a wide variety of construction companies within the building industry.

If you wish to investigate career opportunities in the building industry you can contact Construction Skills at [www.citb.org.uk](http://www.citb.org.uk)

The NC requires you to achieve a minimum of 12 credits. You may of course take additional Units 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 multi choice questions, tasks with checklists, and other activities when working in teams.

## 9 Glossary of terms

**SCQF:** This stands for the Scottish Credit and Qualification Framework, which is a new way of speaking about qualifications and how they inter-relate. We use SCQF terminology throughout this guide to refer to credits and levels. For further information on the SCQF visit the SCQF website at [www.scqf.org.uk](http://www.scqf.org.uk)

**SCQF credit points:** One SCQF credit point equates to 10 hours of learning. NQ Units at SCQF levels 2-6 are worth 6 SCQF credit points, NQ Units at level 7 are worth 8 SCQF points.

**SCQF levels:** The SCQF covers 12 levels of learning. 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.

**Dedicated Core Skill Unit:** This is a Unit that is written to cover one or more particular Core Skills, eg National Units in Information Technology or Communications.

**Embedded Core Skills:** This is where the development of a Core Skill is incorporated into the Unit and where the Unit assessment also covers the requirements of Core Skill assessment at a particular level.

**Signposted Core Skills:** This refers to the opportunities to develop a particular Core Skill at a specified level that lie outwith automatic certification.

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

**Consortium-devised National Certificates/National Progression Awards** are those developments or revisions undertaken by a group of centres in partnership with SQA.