Group Award Specification for:

GM97 47 **SQA Advanced Certificate in Civil Engineering**
GM95 48 **SQA Advanced Diploma in Civil Engineering**

Date of publication: August 2017

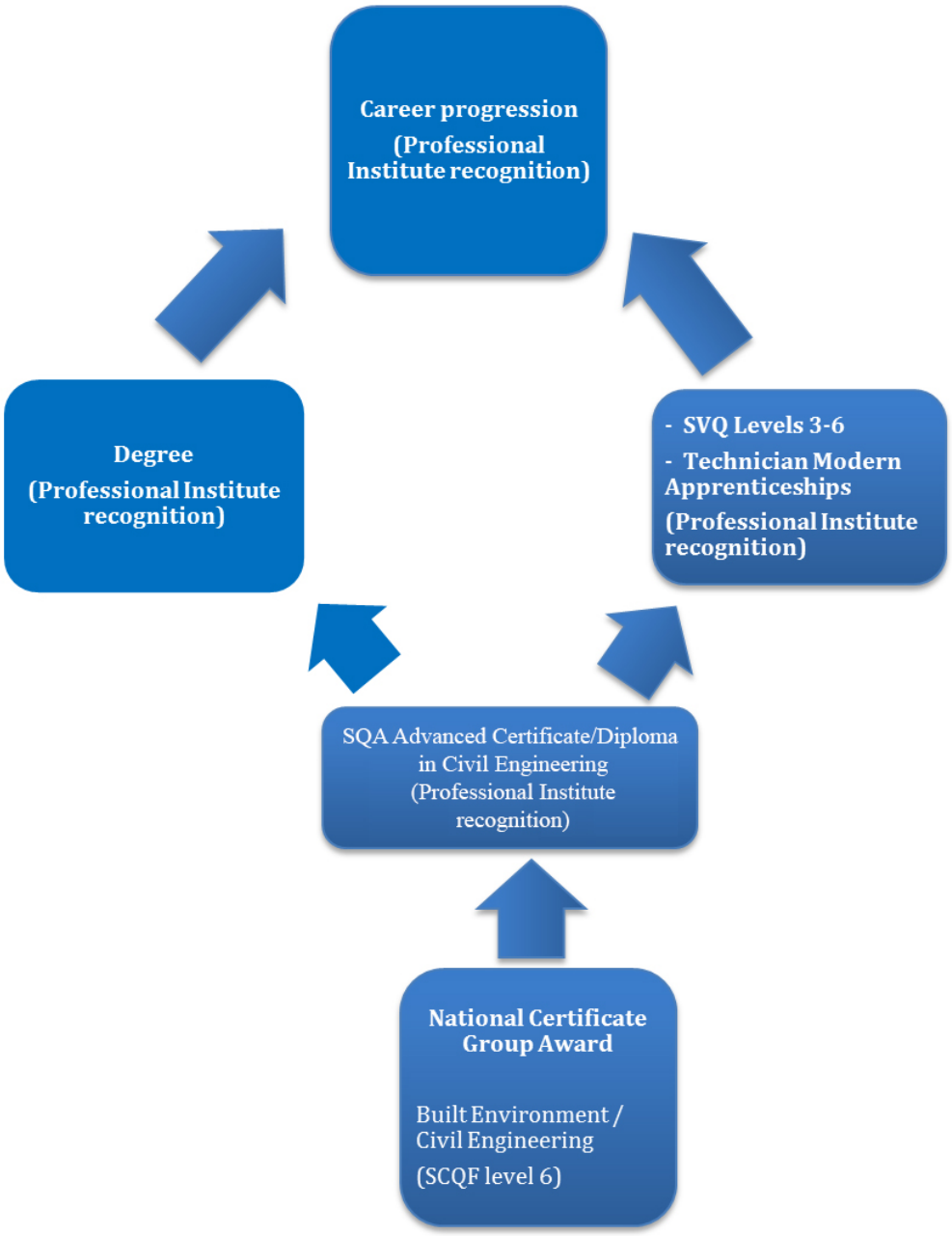
Version: 03 (August 2021)

Contents

1 Introduction

This is the Arrangements Document for the Group Award(s) in SQA Advanced Certificate in Civil Engineering and SQA Advanced Diploma in Civil Engineering. This document includes background information on the Group Award, its aims, details of the Group Award structure, and guidance on delivery.

Progression opportunities exist as below:



2 Qualifications structure

2.1 SQA Advanced Certificate in Civil Engineering

4 Code	2 Code	Unit title	SQA credit	SCQF credit points	SCQF level
Mandatory Units (9 credits required)					
HR5D	48	Geotechnics A	1	8	8
HR5P	47	Civil Engineering Contract and Project Management A	1	8	7
HR50	47	Civil Engineering Materials and Testing	1	8	7
HR53	47	Civil Engineering Specialisms	1	8	7
HR48	47	Construction Site Surveying A	1	8	7
HT87	47	Construction Technology: Substructure	1	8	7
HR4N	46	Mathematics for Construction	1	8	6
HR3V	47	Structural Mechanics	1	8	7
HR5W	47	SQA Advanced Certificate in Civil Engineering: Graded Unit 1	1	8	7
Optional Units (3 credits required)					
HR52	47	CAD for Civil Engineering	1	8	7
HR5C	47	Civil Engineering: Fluid Mechanics	1	8	8
HR51	48	Civil Engineering Technology	1	8	8
HR4Y	48	Computer Applications for Civil Engineering	1	8	8
HR59	47	Construction Site Surveying B	1	8	7
HR4X	47	Construction Technical Communication Skills	1	8	7
HR5F	48	Highway Engineering	1	8	8
HR5R	47	Mathematics for Civil Engineering	1	8	7
HR5L	48	Public Health Engineering	1	8	8
HR4W	47	Railway Civil Engineering: An Introduction	1	8	7
HR5H	48	Traffic Engineering	1	8	8
HR5K	48	Water Supply Engineering	1	8	8
HR3L	47	CAD: 2D I	1	8	7
HR7N	47*	Building Information Modelling (BIM): Principles	1	8	7

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

It comprises 96 SCQF credit points.

8 are at SCQF level 6, 56 are at SCQF level 7 and 8 are at SCQF level 8 in the mandatory section.

A further 24 SCQF credit points are required to be achieved from the selection of Units at SCQF level 7 and level 8 in the optional section.

2.2 SQA Advanced Diploma in Civil Engineering

4 Code	2 Code	Unit title	SQA credit	SCQF credit points	SCQF level
Mandatory Units (24 credits required)					
HR5P	47	Civil Engineering Contract and Project Management A	1	8	7
HR6J	48	Civil Engineering Contract and Project Management B	1	8	8
HR5C	48	Civil Engineering Fluid Mechanics	1	8	8
HR50	47	Civil Engineering Material and Testing	1	8	7
HR53	47	Civil Engineering Specialisms	1	8	7
HR51	48	Civil Engineering Technology	1	8	8
HR4Y	48	Computer Applications for Civil Engineering	1	8	8
HR48	47	Construction Site Surveying A	1	8	7
HR59	47	Construction Site Surveying B	1	8	7
HR4X	47	Construction Technical Communication Skills	1	8	7
HT87	47	Construction Technology: Substructure	1	8	7
HR5D	48	Geotechnics A	1	8	8
J53J	47*	Health and Safety in Construction	1	8	7
HR4N	46	Mathematics for Construction	1	8	6
HR5R	47	Mathematics for Civil Engineering	1	8	7
HR6F	48	Reinforced Concrete Design and Detailing	1	8	8
HR6E	47	Structural Analysis A: Statically Determinate Structures	1	8	7
HR6C	48	Structural Analysis B: Statically Determinate and Indeterminate Structures	1	8	8
HR3V	47	Structural Mechanics	1	8	7
HR67	47	Structural Steel Design and Detailing	1	8	8
HR6A	48	Geotechnics B	1	8	8
HR5W	47	Civil Engineering: Graded Unit 1	1	8	7
HR6N	48	Civil Engineering: Graded Unit 2	2	16	8
Optional Units (6 credits required)					
HR5Y	48	Construction Site Surveying C	1	8	8
HR5F	48	Highway Engineering	1	8	8
HP6M	47	Personal Development Planning	1	8	7
HR5L	48	Public Health Engineering	1	8	8
HR4W	47	Railway Civil Engineering: An Introduction	1	8	7
HR62	48	Railway Permanent Way Engineering	1	8	8
HR61	48	Railway Permanent Way Engineering: Computer Design	1	8	8
HR65	48	Structural Masonry Design and Detailing	1	8	8
HR68	48	Structural Timber Design and Detailing	1	8	8
HR5H	48	Traffic Engineering	1	8	8
HR5K	48	Water Supply Engineering	1	8	8
HR3L	47	CAD: 2D I	1	8	7
HR52	47	CAD for Civil Engineering	1	8	7
HR6L	48	Applied Mathematics for Civil Engineering	1	8	8
HT03	48*	Engineering Mathematics 4	1	8	8

HR7N	47*	Building Information Modelling (BIM): Principles	1	8	7
HR7T	48*	CAD: Digital Collaboration Practices	2	16	8

This Group Award is made up of 30 SQA Unit credits.

It comprises 240 SCQF credit points.

8 are at SCQF level 6 and 96 are at SCQF level 7 and 88 at SCQF level 8 in the mandatory section.

A further 48 SCQF credit points are required to be achieved from the selection of Units at SCQF level 7 and level 8 in the optional section.

3 Aims of the Qualifications

General aims — to 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
- technical skills — broadening and deepening
- oral, written and pictorial communication skills
- numerical and ICT skills
- resource management ability
- flexibility, knowledge, skills and motivation as a basis for progression to graduate and postgraduate studies

SQA Advanced Certificate Target learner group

The SQA Advanced Certificate programme is suitable for a wide range of learners including:

- school leavers
- learners progressing from a lower level award in construction or a closely related discipline
- adult returners to education
- learners in employment who wish to enhance their career prospects
- Modern Apprentices

SQA Advanced Diploma Target learner group

The SQA Advanced Diploma programme is suitable for a wide range of learners including:

- school leavers
- learners progressing from an SQA Advanced Certificate in Civil Engineering or a closely related discipline
- adult returners to education
- learners in employment who wish to enhance their career prospects

3.1 Aims of SQA Advanced Certificate in Civil Engineering

Aims are to:

1 Prepare learners for employment as engineering technicians in the civil engineering industry with a range of employers who design, manage, maintain or adapt infrastructure elements such as bridges, railways, roads, water and sewerage installations including consulting civil engineers, civil engineering contractors and the owners/managers of infrastructure components.
2 Provide learners with a range of contemporary vocational skills utilising modern equipment and techniques available for basic design procedures, surveying and material testing, thus enabling learners to make an immediate contribution in their role as engineer technicians.
3 Provide a choice of optional Units that will allow learners to develop in other areas relevant to future employment in civil engineering, or progression via an SQA Advanced Diploma in Civil Engineering.
4 Enable learners to achieve EngTech professional body recognition by the Institute of Civil Engineers.
5 Provide learners with a range of skills to support learning in the SVQ 3 and SVQ 4 Construction: Technical Modern Apprenticeship Frameworks.

3.2 SQA Advanced Diploma in Civil Engineering

Aims are to:

6 Prepare learners for employment as senior engineering technicians in the civil engineering industry with a range of employers who design, manage, maintain or adapt infrastructure elements such as bridges, railways, roads, water and sewerage installations including consulting civil engineers, civil engineering contractors and the owners/managers of infrastructure components.
7 Provide learners with a range of contemporary vocational skills utilising modern equipment and techniques available for design procedures, surveying and material testing, thus enabling learners to make an immediate contribution in their role as engineer technician.
8 Provide a choice of optional Units that will allow learners to develop in other areas relevant to future employment in civil engineering, or progression to higher education Civil Engineering institutes.
9 Enable learners to achieve appropriate professional body recognition, in particular but not exclusively, the Institute of Civil Engineers.
10 Provide learners with a range of skills to support learning in the SVQ 4 Construction: Technical Modern Apprenticeship Frameworks.

The Civil Engineering Graded Units integrate several elements from the constituent Units in each framework to provide a coherent, coordinated and relevant case study which will encourage the learners to demonstrate the extent of their knowledge and understanding of the subject area.

3.3 Graded Units

There are two Graded Units in the Frameworks:

Civil Engineering: Graded Unit 1 — 1 credit Unit of 8 points at SCQF level 7
Civil Engineering: Graded Unit 2 — 2 credit Unit of 16 points at SCQF level 8

The Graded Units are designed to test knowledge and skills across the Units of the award in the context of a typical work related activity.

Where learners are progressing from SQA Advanced Certificate to SQA Advanced Diploma the *SQA Advanced Diploma Graded Unit 2* might be an extension, in depth or breadth, of the *SQA Advanced Certificate Graded Unit 1*.

The Graded Unit is designed as a project-based case study. The structure and tasks are drawn from the constituent mandatory Units in the Group Award and are designed to assess the learner's ability to retain and integrate the knowledge and skills gained in the study of the award.

The subject and design of the case study reflect actual industry practice therefore offering the learner valuable, relevant and realistic experience which is transferrable to both employment and educational situations.

In addition, the case study will allow the learner to develop a variety of supplementary skills and attributes which enhance life skills and the educational experience. Such skills tied to enterprise, employability, sustainable development and citizenship are deemed essential to success in learning, life and work.

4 Recommended entry to the qualifications

Access to SQA Advanced Certificate Qualifications

SQA Advanced programmes are intended primarily for people who are in, or plan to enter employment. Learners who enter with at least one of the following qualifications are likely to benefit more readily from the programme:

- an NC or SQA Advanced Certificate in a related discipline
- at least one Higher level pass, with appropriate supporting passes at Standard Grade Credit/National level 5 in appropriate subjects, which should include science and/or technology
- an SVQ in Construction or a related discipline
- those with other entry qualifications who demonstrate a realistic chance of success
- a craft qualification combined with appropriate further study, prior to, or in parallel with, the SQA Advanced Certificate programme

Access to SQA Advanced Diploma Qualifications

SQA Advanced programmes are intended primarily for people who are in, or plan to enter employment. Learners who enter with at least one of the following qualifications are likely to benefit more readily from the programme:

- an SQA Advanced Certificate in Civil Engineering or related discipline
- at least one Higher level pass, with appropriate supporting passes at Standard Grade Credit/National level 5 in appropriate subjects, which should include mathematics and science and/or technology
- an SVQ in Construction or a related discipline
- those with other entry qualifications who demonstrate a realistic chance of success

Work Experience

Mature learners with suitable relevant work experience may be accepted for entry, or advanced entry; provided the enrolling centre believes that the learner is likely to benefit from undertaking the awards. Centres may wish to use Core Skills profiling to assist them in this.

4.1 Core Skills entry profile

Applied problem solving, including creative thinking and on-going evaluation of proposed and actual design solutions are essential elements in Civil Engineering. There are also ample opportunities within the award to develop key numerical and graphical competencies in the context of applied knowledge and skills. The focus in the award on technology as a current industry tool in the design process ensures sound competence and understanding of its applications and uses. Access to technology, with appropriate support systems, is available at all centres for reference, research and the production and presentation of accurate written and graphic materials. As learners undertake the award, formative activities will replicate group problem solving approaches using the communication techniques required in the industry today.

Awareness and development of Core Skills is also incorporated into the award by the fact that learners, supported by assessors, have to take responsibility for their own learning programmes and produce and present a project.

The Qualifications Design Team has agreed, therefore, that the delivery of mandatory and optional Units should provide many opportunities for tailoring relevant elements of the Core Skills to the specific demands of the vocational area.

Core Skill	Recommended SCQF entry profile	Associated assessment activities
Communication	Int 2 (5)	Research, analysis, report preparation and presentation.
Numeracy	Int 1 (4)	Numerical and graphical exploration and presentation of elements of design, surveying and measurement.
Information and Communication Technology (ICT)	Int 2 (5)	Accessing information for base research purposes. Assimilation and analysis of research information. Creation of graphical and narrative materials for presentation purposes.
Problem Solving	Int 2 (5)	Critical thinking, planning and organisation, review and evaluation are fundamental to all elements of these qualifications.
Working with Others	Int 1 (4)	Co-operatively, as part of a team in practical situations.

5 Additional benefits of the qualification in meeting employer needs

Study of each of these Qualifications will allow the learner to develop a variety of supplementary skills and attributes which enhance life skills and the educational experience. Such skills tied to enterprise, employability, sustainable development and citizenship are deemed essential to success in learning, life and work. They should be nurtured wherever possible. The wide range of work to be completed within the Qualifications will provide the learner with opportunity to reflect upon collateral soft skills found, for example, in career development, developing self-confidence, team working, inter-dependence, problem solving, understanding rights and responsibilities, etc.

5.1 Mapping of qualification aims to Units

Code	Unit title	Aims									
		1	2	3	4	5	6	7	8	9	10
HR5P 47	Civil Engineering Contract and Project Management A	X	X		X	X	X	X		X	X
HR6J 48	Civil Engineering Contract and Project Management B	X	X		X	X	X	X		X	X
HR5C 48	Civil Engineering Fluid Mechanics	X	X	X	X	X	X	X		X	X
HR5W 47	Civil Engineering: Graded Unit 1	X	X			X	X	X		X	X
HR6N 48	Civil Engineering: Graded Unit 2	X	X			X	X	X		X	X
HR50 47	Civil Engineering Materials and Testing	X	X		X	X	X	X		X	X
HR53 47	Civil Engineering Specialisms	X	X		X	X	X	X		X	X
HR51 48	Civil Engineering Technology	X	X	X	X	X	X	X		X	X
HR4Y 48	Computer Applications for Civil Engineering	X	X	X	X	X	X	X		X	X
HR48 47	Construction Site Surveying A	X	X		X	X	X	X		X	X
HR59 47	Construction Site Surveying B	X	X	X	X	X	X	X		X	X
HR4X 47	Construction Technical Communication Skills	X	X	X	X	X	X	X		X	X
HT87 47	Construction Technology: Substructure	X	X		X	X	X	X		X	X
HR5D 48	Geotechnics A	X	X		X	X	X	X		X	X
HR3W 47	Health and Safety in Construction	X	X		X	X	X	X		X	X
HR4N 46	Mathematics for Construction	X	X		X	X	X	X		X	X
HR5R 47	Mathematics for Civil Engineering	X	X	X	X	X	X	X		X	X
HR6F 48	Reinforced Concrete Design and Detailing	X	X		X	X	X	X		X	X
HR6E 47	Structural Analysis A: Statically Determinate Structures	X	X			X	X	X		X	X
HR6C 48	Structural Analysis B: Statically Determinate and Indeterminate Structures	X	X			X	X	X		X	X

SQA Advanced Certificate and Diploma

Code	Unit title	Aims									
		1	2	3	4	5	6	7	8	9	10
HR3V 47	Structural Mechanics	X	X			X	X	X		X	X
HR67 48	Structural Steel Design and Detailing	X	X			X	X	X		X	X
HR6A 48	Geotechnics B	X	X			X	X	X		X	X
HR5Y 48	Construction Site Surveying C	X	X			X	X	X	X	X	X
HR5F 48	Highway Engineering	X	X	X	X	X	X	X	X	X	X
HP6M 47	Personal Development Planning	X	X			X	X	X	X	X	X
HR5L 48	Public Health Engineering	X	X	X	X	X	X	X	X	X	X
HR4W 47	Railway Civil Engineering: An Introduction	X	X	X	X	X	X	X	X	X	X
HR62 48	Railway Permanent Way Engineering	X	X			X	X	X	X	X	X
HR61 48	Railway Permanent Way Engineering: Computer Design	X	X			X	X	X	X	X	X
HR65 48	Structural Masonry Design and Detailing	X	X			X	X	X	X	X	X
HR68 48	Structural Timber Design and Detailing	X	X			X	X	X	X	X	X
HR5H 48	Traffic Engineering	X	X	X	X	X	X	X	X	X	X
HR5K 48	Water Supply Engineering	X	X	X	X	X	X	X	X	X	X
HR3L 47	CAD: 2D I	X	X	X	X	X	X	X	X	X	X
HR52 47	CAD for Civil Engineering	X	X			X	X	X	X	X	X
HR6L 48	Applied Mathematics for Civil Engineering	X	X			X	X	X	X	X	X

5.2 Mapping of National Occupational Standards (NOS) and/or trade body standards

Qualification title and code	Scottish Vocational Qualifications incorporating National Occupational Standards	
SQA Advanced Certificate in 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)

SQA Advanced Certificate and Diploma

Qualification title and code	Scottish Vocational Qualifications incorporating National Occupational Standards	
SQA Advanced Certificate in Civil Engineering SQA Advanced Diploma in Civil Engineering	GC4J 24	SVQ 4 Built Environment Design
	GC4K 24	SVQ 4 Construction Contracting Operations: Buying
	GC4L 24	SVQ 4 Construction Contracting Operations: Estimating
	GC4M 24	SVQ 4 Construction Contracting Operations: General
	GC4N 24	SVQ 4 Construction Contracting Operations: Planning
	GC4P 24	SVQ 4 Construction Contracting Operations: Surveying
	GJ19 24	SVQ 4 Construction Site Management (Construction): Building and Civil Engineering
	GJ1A 24	SVQ 4 Construction Site Management (Construction): Highways Maintenance and Repair
	GH0K 24	SVQ 4 Controlling Lifting Operations: Planning Lifts (Construction)
	GC2G 24	SVQ 4 Construction Site Management: Residential Development

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 SQA Advanced Certificate and Diploma Qualifications supply the broad-based underpinning knowledge for each SVQ and relate directly to the constituent National Occupational Standards.

5.3 Mapping of Core Skills development opportunities across the qualifications

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
HR5P 47	Civil Engineering Contract and Project Management A	X		X				X	X	X		
HR6J 48	Civil Engineering Contract and Project Management B	X		X	X	X		X	X	X		
HR5C 48	Civil Engineering Fluid Mechanics	X		X	X		X	X				
HR5W 47	Civil Engineering: Graded Unit 1	X	X	X	X	X	X	X	X	X	X	X
HR6N 48	Civil Engineering: Graded Unit 2	X	X	X	X	X	X	X	X	X	X	X
HR50 47	Civil Engineering Materials and Testing	X		X	X			X		X		
HR53 47	Civil Engineering Specialisms	X		X	X			X	X	X	X	
HR51 48	Civil Engineering Technology	X			X			X		X		
HR4Y 48	Computer Applications for Civil Engineering	X		X	X	X		X	X	X	X	
HR48 47	Construction Site Surveying A	X		X	X	X	X	X			X	
HR59 47	Construction Site Surveying B			X	X	X		X	X		X	
HR4X 47	Construction Technical Communication Skills	X				X						
HT87 47	Construction Technology: Substructure	X						X				
HR5D 48	Geotechnics A	X		X	X						X	
HR3W 47	Health and Safety in Construction							X	X			
HR4N 46	Mathematics for Construction			X	X	X		X				
HR5R 47	Mathematics for Civil Engineering			X	X		X	X				
HR6F 48	Reinforced Concrete Design and Detailing	X		X	X		X	X				
HR6E 47	Structural Analysis A: Statically Determinate Structures			X			X					

SQA Advanced Certificate and Diploma

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
HR6C 48	Structural Analysis B: Statically Determinate and Indeterminate Structures			X			X					
HR3V 47	Structural Mechanics			X								
HR67 48	Structural Steel Design and Detailing			X								
HR6A 48	Geotechnics B			X	X		X					
HR5Y 48	Construction Site Surveying C	X	X	X	X	X	X	X	X	X	X	X
HR5F 48	Highway Engineering			X	X			X	X	X		
HP6M 47	Personal Development Planning						X		X	X		
HR5L 48	Public Health Engineering			X	X			X				
HR4W 47	Railway Civil Engineering: An Introduction	X	X	X	X			X	X	X		
HR62 48	Railway Permanent Way Engineering	X		X	X	X		X	X	X		
HR61 48	Railway Permanent Way Engineering: Computer Design			X	X	X		X	X	X		
HR65 48	Structural Masonry Design and Detailing			X	X	X						
HR68 48	Structural Timber Design and Detailing			X	X							
HR5H 48	Traffic Engineering			X	X	X		X				
HR5K 48	Water Supply Engineering			X	X			X				
HR3L 47	CAD: 2D I						X					
HR52 47	CAD for Civil Engineering						X					
HR6L 48	Applied Mathematics for Civil Engineering			X	X							

5.4 Assessment Strategy for the qualifications

Unit	Assessment			
	Outcome 1	Outcome 2	Outcome 3	Outcome 4
Civil Engineering Contract and Project Management A	Assessment may be carried out by combining two or more Outcomes together or all Outcomes in one holistic assessment of the Unit. Assessment should be conducted under open-book conditions and as such learners should be allowed to bring any textbooks or notes to the assessment. Such papers should be based on a case study of a construction project.			
Civil Engineering Contract and Project Management B	Assessment may be carried out by individual Outcome or by combining two or more Outcomes together. Assessment should be conducted under open-book conditions and as such learners should be allowed to bring any textbooks or notes to the assessment.			
Civil Engineering Fluid Mechanics	It is possible to assess learners either on an individual Outcome basis, a combination of Outcomes or by a single holistic assessment combining all Outcomes. The assessment paper/s should be composed of an appropriate balance of short answer, restricted response and structured questions. Assessment should be conducted under supervised, controlled conditions. A single assessment covering all Outcomes should not exceed three hours in duration.			
Civil Engineering Material and Testing	It is possible to assess learners on an individual Outcome basis, or by combinations of Outcomes. Assessment should be conducted under supervised conditions.			
Civil Engineering Specialisms	Assessment may be on an individual Outcome basis, or parts may be combined as an integrated assessment. They should be conducted under supervised, controlled, open-book conditions. The assessment papers should be composed of an appropriate balance of short answer, restricted response and structured questions.			
Civil Engineering Technology	Assessment should be conducted under closed-book conditions and as such learners should not be allowed to bring textbooks, handouts or notes to the assessment. Evidence should be generated through assessment undertaken in controlled, supervised conditions. The Outcomes may be combined to form a single assessment paper.			

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Computer Applications for Civil Engineering	It is possible to assess learners either on an individual Outcome basis, or by combinations of Outcomes. The assessment papers should be composed of the appropriate combination of exercises, reports, short answer, and restricted response questions. Assessments should be conducted under supervised, controlled conditions.			
Construction Site Surveying A	It is possible to assess learners on an individual Outcome basis, or by combinations of Outcomes. Assessment should be conducted under supervised conditions. The assessment(s) of learning Outcome 1 should consist of an appropriate balance of short answer, restricted response and structured questions in open-book format. The assessment of learning Outcomes 2, 3 and 4 involves practical field surveys in groups with subsequent work done individually.			
Construction Site Surveying B	It is possible to assess learners on an individual Outcome basis, or by combinations of Outcomes. Assessment should be conducted under supervised conditions. The assessment of learning Outcomes 1 and 2 is on the basis of practical work and the subsequent calculation of results and the plotting of data. The assessment of learning Outcome 3 involves the compilation of setting out data and its subsequent use in practical fieldwork. Under these circumstances, the fieldwork for the surveys and for the setting out will be done in groups and each learner will be expected to contribute to all the major components of this. In the calculation of results and compilation of setting out data, learners should work individually.			
Construction Technical Communication Skills	It is possible to assess learners either on an individual Outcome basis, combinations of Outcomes or by a single holistic assessment event combining all Outcomes. A single holistic assessment should last not more than two hours. Where evidence for Outcomes is assessed on a sample basis, the whole content listed in the Knowledge and/or Skills section must be taught and available for assessment.			

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Construction Technology: Substructure	It is possible to assess learners either on an individual Outcome basis, combinations of Outcomes or by a single holistic assessment combining all Outcomes. In this Unit it is proposed that Outcomes 1, 2 and 3 may be combined into a single question paper assessment and Outcome 4 as an individual assessment. The assessment papers should be composed of a suitable balance of short answer, restricted response and structured questions. Assessment should be conducted under controlled, supervised conditions.			
Geotechnics A	It is possible to assess learners either on an individual Outcome basis, a combination of Outcomes or by a single holistic assessment combining all Outcomes. The assessment paper/s should be composed of an appropriate balance of short answer, restricted response and structured questions. Assessment should be conducted under supervised, controlled conditions. A single assessment covering all Outcomes should not exceed three hours in duration.			
Health and Safety in Construction	It is possible to assess learners either on an individual Outcome basis, combinations of Outcomes or by a single holistic assessment combining all Outcomes. The assessment paper/s should be composed of an appropriate balance of short answer, restricted response and structured questions, and could be based on a single case study. Assessment should be conducted under supervised, controlled (and generally open-book) conditions. A single assessment covering all Outcomes should not exceed two hours duration.			
Mathematics for Construction	Evidence for the Knowledge and/or Skills might be provided by an assessment taken at a single event lasting 60 minutes and carried out under supervised controlled conditions. Assessment should be conducted under closed-book conditions and as such learners should not be allowed to bring textbooks, hand-outs or notes to the assessment. Questions used to elicit learner evidence may take the form of an appropriate balance of short answer, restricted response and structured questions. The assessment of this Outcome can be combined with Outcomes 2 and 3 to form a single assessment paper.			

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Mathematics for Civil Engineering	Assessment may be carried out: Outcome by Outcome Two or more Outcomes together, All Outcomes together — holistic assessment of the Unit. The total time allowed for the assessment(s) should not exceed two hours. Learners should be given access to calculators. Sufficient working must be shown to demonstrate the method of solution. Outcomes 1, 2 and 3 must be conducted under supervised closed-book conditions.			
Reinforced Concrete Design and Detailing	It is possible to assess learners either on an individual Outcome basis, a combination of Outcomes or by a single holistic assessment combining all Outcomes. The assessment paper/s should be composed of an appropriate balance of short answer, restricted response and structured questions. Assessment should be conducted under supervised, controlled open-book conditions. A single assessment covering all Outcomes should not exceed three hours in duration.			
Structural Analysis A	It is possible to assess learners either on an individual Outcome basis, a combination of Outcomes 2 and 3 or by a single holistic assessment combining all Outcomes. The assessment paper/s should be composed of an appropriate balance of short answer, restricted response and structured questions. Assessment should be conducted under supervised, controlled conditions. A single assessment covering all Outcomes should not exceed 2 hours in duration.			

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Structural Analysis B	It is possible to assess learners either on an individual Outcome basis, a combination of Outcomes or by a single holistic assessment combining all Outcomes. The assessment paper/s should be composed of an appropriate balance of short answer, restricted response and structured questions. Assessment should be conducted under supervised, controlled conditions. A single assessment covering all Outcomes should not exceed two hours in duration.			
Structural Mechanics	It is possible to assess learners either on an individual Outcome basis, a combination of Outcomes by a single holistic assessment combining all Outcomes. The assessment paper/s should be composed of an appropriate balance of short answer, restricted response and structured questions. Assessment should be conducted under supervised, controlled conditions. A single assessment covering all Outcomes should not exceed 2 hours in duration.			
Structural Steel Design and Detailing	It is possible to assess learners either on an individual Outcome basis, a combination of Outcomes or by a single holistic assessment combining all Outcomes. The assessment paper/s should be composed of an appropriate balance of short answer, restricted response and structured questions. Assessment should be conducted under supervised, controlled conditions. A single assessment covering all Outcomes should not exceed 3 hours in duration.			
Geotechnics B	It is possible to assess learners either on an individual Outcome basis, a combination of Outcomes or by a single holistic assessment combining all Outcomes. The assessment paper/s should be composed of an appropriate balance of short answer, restricted response and structured questions. Assessment should be conducted under supervised, controlled conditions. A single assessment covering all Outcomes should not exceed three hours in duration.			

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Site Surveying C	It is possible to assess learners on an individual Outcome basis, or by combinations of Outcomes. Assessment should be conducted under supervised conditions. The assessment(s) of learning Outcomes 1 and 2 involve practical field surveys in groups with subsequent work done individually. The assessment(s) of learning Outcome 3 involves practical field surveys and an appropriate balance of short answer, restricted response and structured questions in open-book format. The assessment(s) of learning Outcomes 4 should consist of an appropriate balance of short answer, restricted response and structured questions in open-book format.			
Highway Engineering	It is possible to assess learners on an individual Outcome basis, by combinations of Outcomes, or by a single holistic assessment encompassing all Outcomes. Assessment should be conducted under supervised conditions. The assessment(s) should consist of an appropriate balance of restricted response and structured questions. If a single assessment covering all Outcomes is used, it should not exceed three hours in duration.			
Personal Development Planning	The Unit should be assessed holistically. To achieve this a learner should create, maintain and present a portfolio of evidence — a personal development portfolio. The activities associated with the Unit should provide ample opportunities for learners to generate and gather the required evidence of achievement.			
Public Health Engineering	Assessment for each Outcome may be carried out on an individual basis or assessment of all four Outcomes could be carried out in a single assessment event. In either circumstance, total assessment time should not exceed three hours. Assessment events should be carried out in open-book, supervised and controlled conditions.			
Railway Civil Engineering: An Introduction	It is possible to assess learners either on an individual Outcome basis, combinations of Outcomes or by a single holistic assessment combining all Outcomes. The assessment paper/s should be composed of an appropriate balance of short answer, restricted response and structured questions. Assessment should be conducted under supervised, controlled (and generally open-book) conditions. A single assessment covering all Outcomes should not exceed two hours duration.			

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Railway Permanent Way Engineering	It is possible to assess learners either on an individual Outcome basis, combinations of Outcomes or by a single holistic assessment combining all Outcomes. The assessment paper/s could be composed of an appropriate balance of short answer, restricted response and structured questions, or alternatively a mini project assessment. Assessment should be conducted under supervised, controlled (and generally open-book) conditions. A single assessment covering all Outcomes should not exceed three hours duration.			
Railway Permanent Way Computer Design	It is possible to assess learners either on an individual Outcome basis, combinations of Outcomes or by a single holistic assessment/project combining all Outcomes. The assessment paper/s should be composed of an appropriate balance of short answer, restricted response and structured questions. Assessment should be conducted under supervised, controlled (and generally open-book/internet access) conditions. A single assessment covering all Outcomes should not exceed three hours duration.			
Structural Masonry Design and Detailing	It is possible to assess learners either on an individual Outcome basis, a combination of Outcomes or by a single holistic assessment combining all Outcomes. The assessment paper/s should be composed of an appropriate balance of short answer, restricted response and structured questions. Assessment should be conducted under supervised, controlled conditions. A single assessment covering all Outcomes should not exceed three hours in duration.			
Structural Timber Design and Detailing	It is possible to assess learners either on an individual Outcome basis, a combination of Outcomes or by a single holistic assessment combining all Outcomes. The assessment paper/s should be composed of an appropriate balance of short answer, restricted response and structured questions. Assessment should be conducted under supervised, controlled conditions. A single assessment covering all Outcomes should not exceed 3 hours in duration.			

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Traffic Engineering	It is possible to assess learners on an individual Outcome basis, by combinations of Outcomes, or by a single holistic assessment encompassing all Outcomes. Assessment should be conducted under supervised conditions. The assessment(s) should consist of an appropriate balance of restricted response and structured questions. If a single assessment covering all Outcomes is used, it should not exceed three hours in duration.			
Water Supply Engineering	It is possible to assess learners on an individual Outcome basis, by combinations of Outcomes, or by a single holistic assessment encompassing all Outcomes. Assessment should be conducted under supervised conditions. The assessment(s) should consist of an appropriate balance of restricted response and structured questions. If a single assessment covering all Outcomes is used, it should not exceed three hours in duration.			
CAD 2-D I	The assessments for all Outcomes **must be** in the form of practical assessments. Outcomes 1 to 3 should be given as one integrated practical assessment lasting no more than 3 hours and the remaining Outcome as a second practical assessment lasting two hours. Both assessments must be given under controlled, supervised conditions.			
CAD for Civil Engineering	The intention for the assessment of all Outcomes in this Unit is that they be combined together into a single practical assessment. A single assessment may be given in whole or in parts at the discretion of the lecturer under controlled, supervised conditions over an 8-hour period. However, individual assessments of 1 to 3 hours each may be given at the discretion of the centre.			

Unit	Assessment			
	Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Applied Mathematics for Civil Engineering	Evidence should be produced under closed-book, supervised conditions in response to an appropriate set of questions. And as such learners should not be allowed to bring textbooks or soft hand-outs/notes, programmable calculators, any other electronic devices to the assessment. Assessment may be carried out, Outcome by Outcome, two or more Outcomes together, all Outcomes together — holistic assessment of the Unit			

6 Guidance on approaches to delivery and assessment

6.1 Sequencing/integration of Units

The structure of the qualifications allows for a high degree of flexibility in the delivery mode. The awards 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 combined modes of study may enable learners to complete the awards within a shorter time period.

There are many opportunities for integrative delivery of Units within each of the awards. Teaching and learning for mathematics and science Units could be integrated with technology Units, and assessment should be encouraged to be within the application of technology Units. Graded Units provide the opportunity for integration of knowledge and skills across the Units in an award. Supporting Notes with each Unit identify specific opportunities for integration with other Units.

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

Provided that adequate material and tutorial expertise existed these awards 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.

The awards lend themselves 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.

6.1.1 Delivery schedule

There are many driving forces which determine a full-time delivery programme for any qualification such as, accommodation, staff availability and materials and equipment. The following tables indicate a suggested delivery programme for a typical SQA Advanced Diploma qualification over a two-year, full-time, two-semester Session.

SQA Advanced Diploma in Civil Engineering	
Suggested Delivery for a full-time, FIRST YEAR Programme	
Semester 1	**Semester 2**
Civil Engineering Contract and Project Management A	Civil Engineering Fluid Mechanics
Mathematics for Construction	Construction Technical Communication Skills
Geotechnics A	Civil Engineering Materials and Testing
Construction Site Surveying A	Reinforced Concrete Design and Detailing
CAD: 2D I (or any other Optional Unit)	Structural Mechanics
Structural Analysis A	Public Health Engineering (or any other Optional Unit)
Health and Safety in Construction	Highway Engineering (or any other Optional Unit)
	Civil Engineering: Graded Unit 1

SQA Advanced Diploma in Civil Engineering	
Suggested Delivery for a full-time, SECOND YEAR Programme	
Semester 1	**Semester 2**
Civil Engineering Contract and Project Management B	Construction Technology: Substructure M
Civil Engineering Specialisms	Mathematics for Civil Engineering
Civil Engineering Technology	Structural Analysis B
Computer Applications for Civil Engineering	Structural Design and Detailing
Construction Site Surveying B	Geotechnics B
CAD for Civil Engineering (or any other Optional Unit)	Water Supply Engineering (or any other Optional Unit)
Traffic Engineering (or any other Optional Unit)	Civil Engineering: Graded Unit 2

6.2 Delivery

The structure of the qualifications allows for a high degree of flexibility in the delivery mode. The awards 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 combined modes of study may enable learners to complete the awards within a shorter time period.

There are many opportunities for integrative delivery of Units within each of the awards. Teaching and learning for mathematics and science Units could be integrated with technology Units, and assessment should be encouraged to be within the application of technology Units. Graded Units provide the opportunity for integration of knowledge and skills across the Units in an award. Supporting Notes with each Unit identify specific opportunities for integration with other Units.

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

Provided that adequate material and tutorial expertise existed these awards 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.

The awards lend themselves 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 while not imposing excessive demands on centres or learners.

The SQA Design Principles for SQA Advanced awards encourage a more holistic approach to assessment and this has been adopted in this award. The new SQA Advanced 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 learners and centres and Unit definitions allow the use of ‘sampling’ of Knowledge and/or Skills where appropriate.

Each Unit Descriptor 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 assessments is provided for each Outcome in the Unit. Opportunities for integrative assessment across Units is provided and it is generally recommended that topics such as mathematics and fluid mechanics are assessed within Units which apply fundamental theory to practical applications. Assessment guidance includes a variety of conditions including open/closed-book, case study, etc.

Exemplar assessment instruments are available for all mandatory Units and optional Units. The exemplar provides guidance on content, conduct, evidence required and marking and grading. Centres are expected to use these exemplars as templates when producing further assessment instruments.

6.4 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.

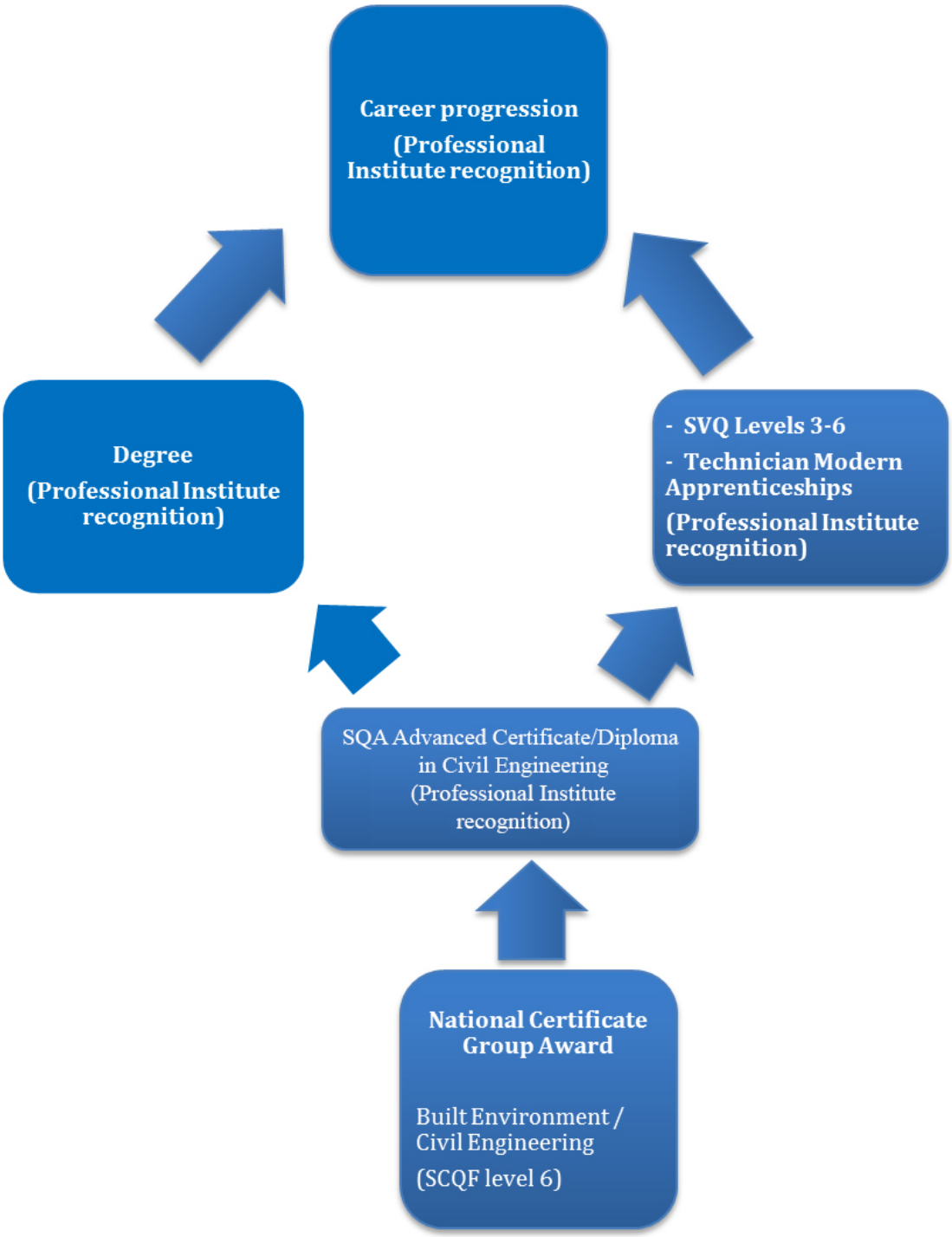
The recognition of prior learning may **not** be used as a method of assessing in the following types of Units and assessments:

- SQA Advanced 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 practice
- 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.

6.4.1 Articulation and/or progression



6.4.2 Professional recognition

The SQA Advanced qualifications in Civil Engineering have been developed with both career progression and professional development in mind. It is essential that students gain the maximum benefit from their programme of study.

The major professional Institute related to the Civil Engineering Discipline is the Institute of Civil Engineers (ICE).

6.4.3 Transitional arrangements

It is recommended that learners who are in the process of completing one of the predecessor awards finish it rather than switching to the new, 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 funding or employment and where the centre has progressed 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 Section 6.4.4 be considered.

6.5 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.

6.6 Support materials

A **list of existing ASPs** is available to view on SQA's website.

6.7 Resource requirements

Much of the content of these SQA Advanced 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.

HR48 47 *Construction Site Surveying A*
HR6A 48 *Geotechnics* B

Geotechnics B will require access to Virtual Testing Software.

Construction Site Surveying A 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.

HR3L 47 *Computer Aided Drafting 2D I*
HR3H 47 *Computer Aided Drafting 2D II*

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.

Each discipline has specific requirements in terms of documents, texts, IT software and hardware that are required to support the learning processes. Examples are: Scottish Building Standards: Technical Handbooks, Standard Methods of Measurement and contract planning programmes.

Investment in a selection of appropriate, construction-specific texts and journals would be essential to 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)

Graded Unit: Graded Units assess learners' ability to integrate what they have learned while working towards the Units of the Group Award. Their purpose is to add value to the Group Award, making it more than the sum of its parts, and to encourage learners to retain and adapt their skills and knowledge.

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 SQA Advanced 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. SQA Advanced Certificates and SQA Advanced Diplomas are available at SCQF levels 7 and 8 respectively. SQA Advanced 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.

History of changes

It is anticipated that changes will take place during the life of the qualification and this section will record these changes. Centres are advised to check SQA's Connect to confirm they are using the up-to-date qualification structure.

NOTE: Where a Unit is revised by another Unit:

- No new centres may be approved to offer the Unit which has been revised.
- Centres should only enter learners for the Unit which has been revised where they are expected to complete the Unit before its finish date.

Version Number	Description	Date
04	**Addition of units:** HR7N 47 – Building Information Modelling (BIM): Principles and HR7T 48 – CAD: Digital Collaboration Practices added as Optional units to Frameworks for: Advanced Diploma Civil Engineering (GM95 48) **Addition of unit:** HR7N 47 – Building Information Modelling (BIM): Principles added as Optional unit to Framework for: Advanced Certificate Civil Engineering (GM97 47)	17/08/21
03	**Revision of Unit:** HR3W 47 Health and Safety in Construction (finish date 31/07/2021) has been replaced by J53J 47 Health and Safety in Construction (start date 01/08/2020).	10/11/2020
02	Additional Unit HT03 48 Engineering Mathematics 4 has been added to the optional section for the Diploma framework only	24/03/20

Acknowledgement

SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of SQA Advanced Qualifications.

Further information

Call SQA's Customer Contact Centre on 44 (0) 141 500 5030 or 0345 279 1000. Alternatively, complete our Centre Feedback Form.

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 SQA Advanced Certificate and Diploma in the Civil Engineering discipline are mainly knowledge-based qualifications which require you to spend the majority of your time in a classroom location as well as participating in local site visits, research and fieldwork.

The aims of the awards are designed to provide you with the following:

SQA Advanced Certificate in Civil Engineering

1 Prepare you for employment as engineering technicians in the civil engineering industry with a range of employers who design, manage, maintain or adapt infrastructure elements such as bridges, railways, roads, water and sewerage installations including consulting civil engineers, civil engineering contractors and the owners/managers of infrastructure components.
2 Provide you with a range of contemporary vocational skills utilising modern equipment and techniques available for basic design procedures, surveying and material testing, thus enabling you to make an immediate contribution in their role as engineer technicians.
3 Provide a choice of optional Units that will allow you to develop in other areas relevant to future employment in civil engineering, or progression via an SQA Advanced Diploma in Civil Engineering.
4 Enable you to achieve EngTech professional body recognition by the Institute of Civil Engineers.
5 Provide you with a range of skills to support learning in the SVQ 3 and SVQ 4 Construction: Technical Modern Apprenticeship Frameworks.

SQA Advanced Diploma in Civil Engineering:

6 Prepare you for employment as senior engineering technicians in the civil engineering industry with a range of employers who design, manage, maintain or adapt infrastructure elements such as bridges, railways, roads, water and sewerage installations including consulting civil engineers, civil engineering contractors and the owners/managers of infrastructure components.
7 Provide you with a range of contemporary vocational skills utilising modern equipment and techniques available for design procedures, surveying and material testing, thus enabling you to make an immediate contribution in their role as engineer technician.
8 Provide a choice of optional Units that will allow you to develop in other areas relevant to future employment in civil engineering, or progression to higher education Civil Engineering institutes.
9 Enable you to achieve appropriate professional body recognition, in particular but not exclusively, the Institute of Civil Engineers.
10 Provide you with a range of skills to support learning in the SVQ 4 Construction: Technical Modern Apprenticeship Frameworks.