



## **A Foundation Apprenticeship in Civil Engineering at SCQF level 6**

**GL51 46**

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This document provides you with information you will require to deliver a Foundation Apprenticeship in Civil Engineering.

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1.0	New Framework Specification post FA developments	Frank Quinn	October 2020

## Background

One of the key recommendations of Sir Ian Wood's review on developing the young workforce was to "develop better connectivity and co-operation between education and the world of work to ensure young people at all levels of education understand the expectations of employers, and that employers are properly engaged" (Scottish Government response to "Developing the Young Workforce; 2015). The Scottish Government set ambitious targets to ensure this connectivity is delivered through a partnership of schools, colleges/training providers and employers.

Skills Development Scotland (SDS), alongside other partners, is working with industry to increase the range of work-based learning opportunities for pupils in the senior phase of secondary schools. One of the ways this is being achieved is through the development of Foundation Apprenticeships and SDS is leading this initiative. Foundation Apprenticeships will allow pupils to gain vocational qualifications that combine sector specific skills alongside the knowledge that underpins these skills in a workplace setting while still at school.

The Foundation Apprenticeship in Civil Engineering will provide young people with the opportunity to gain valuable work experience and industry-recognised qualifications alongside their senior school education. This FA has been recognised as a formal route into a professional career by industry bodies including the Institution of Civil Engineers (ICE) and the Civil Engineering Contractors Association (CECA).

## The Civil Engineering sector in Scotland

Civil Engineers and Civil Engineering Technicians play a pivotal role and are fundamental to all aspects of the built environment, from the design and construction of iconic structures to the provision of underground services.

Civil Engineering infrastructure projects deliver significant economic benefits for Scotland. Independent research shows that for every £1 spent, there is a return of £2.84 in wider economic activity.

Information on market intelligence and insight for the construction industry is produced by the CITB Construction Skills Network (CSN). It provides data highlights trends and how the industry will change year-on-year:

<https://www.citb.co.uk/about-citb/construction-industry-research-reports/>

This labour market information evidences a growing demand for Civil Engineering related occupations – arising due to large infrastructure projects, existing skills shortages and an ageing workforce. An increased demand for a Technical workforce across a range of sectors in Scotland is also resulting in the current skills shortages.

## Why choose Civil Engineering?

*“Civil engineering is all about helping people and shaping the world. It’s the work that civil engineers do to make our lives much easier. They keep us switched on and powered up by supplying electricity and gas to our homes. They give us clean water and purify it so we can use it again. They build all sorts of things so we can get around, from roads and bridges to railways and airports.*

*Civil engineers also do lots of other things like finding clever ways of recycling our waste, and finding solutions to problems like pollution.” www.ice.org (2015)*

Further Information about Civil Engineering sector can be found at:

[www.ice.org.uk/careers-and-professional-development/what-is-civil-engineering](http://www.ice.org.uk/careers-and-professional-development/what-is-civil-engineering)

## What is the Foundation Apprenticeship in Civil Engineering?

The Foundation Apprenticeship (FA) in Civil Engineering is for pupils in S5 and S6 and typically takes 2 years to complete. Increasingly the framework is also available over a shorter duration, typically a single academic year.

Irrespective of the delivery model, the Civil Engineering framework includes two core elements, namely:

1. National Certificate in Civil Engineering
2. Work Based Learning units

## Background / rationale

This Foundation Apprenticeship supports the commitment to provide relevant work-based vocational education and training as part of the senior phase curriculum. This is offered to prepare young people entering the jobs market with the necessary skills and abilities while providing them with meaningful vocational pathways which they can do alongside other school subjects.

## Partnership

A Foundation Apprenticeship is about the right balance between delivering the taught elements of the programme (the NC) and the development of work-based competences the meta-skills and work-based learning elements.

Development of true competence depends on the continuing acquisition and application of underpinning skills and knowledge. Young people need to build real workplace skills including both those that are specialist to the chosen career and the generic behaviours and attributes that apply to any workplace. This is achieved in a real work setting involving meaningful activities introduced throughout the programme.

Foundation Apprenticeships are delivered by partnerships comprised of school, learning provider and employer. The learning provider is responsible for the approvals, delivery, assessment and quality assurance of the component units and qualifications. Where multiple learning providers are involved, arrangements between them will be detailed in an SQA Partnership Agreement.

The learning provider must have the appropriate SQA centre and qualification approvals in place before it can deliver the Foundation Apprenticeship.

For further support and guidance on SQA's approval, quality assurance processes and SQA Partnership Agreements, please see:

<https://www.sqa.org.uk/sqa/79474.html>

Employers are an essential part of the partnership and can contribute in a range of ways, from creating a workplace challenge, to coaching and mentoring, to interviewing and selection. They may also be involved in the assessment of the work-based learning element.

### **Pastoral Care**

The young people embarking on this Foundation Apprenticeship are school pupils and therefore all those involved in delivering the programme have a duty of care. This includes providing appropriate health and safety training and measures to ensure the safety of the young people, including relevant safeguarding requirements that are required by respective Local Authority and School partners. This must be in the context of the specific workplaces of the individual pupils (one of the mandatory units of the FA covers health and safety).

In addition, a workplace mentor must be assigned to be a point of contact for the young person when they are not in the school environment.

Work placement allocation and methodology, whether on-site or through remote working, should take cognisance of the learner's personal circumstances to maximise the learner experience and opportunity.

### **How should the Foundation Apprenticeship in Civil Engineering be delivered?**

Often, delivery and assessment of the NC occurs at the start of the programme so that the underpinning knowledge can be obtained before contextualising within the work-based learning element.

The work-based learning element is designed to offer the learning access to the workplace, either physically onsite or through remote working. Learning providers are required to identify host employer(s) to provide the work placement opportunity. Employer(s) are asked to provide real work activity aligned to the organisations objectives and to support the development of evidence for assessment against the outcomes

#### **Work Based learning Element:**

The Civil Engineering FA contains units aligned to the respective modern apprenticeship programme. Providers are encouraged to utilise the SVQ route where physical access to the workplace remains and assess in accordance to the SVQ assessment standards required for external verification. Where not possible, providers may utilise the corresponding customised unit. This reflects the same content and standards underpinned by the NOS however offers greater flexibility to the methods of deliver and assessment where access to the physical workplace is not available.

It is acceptable that learners may achieve the Foundation Apprenticeship via a blend of SVQ or Customised units. However, it is critical that irrespective of the route taken, all evidence gathered is mapped to the respective performance criteria and to the standards required of the external verification.

*Please refer to the Foundation Apprenticeship Product Specification for further information on the principles of Foundation Apprenticeship delivery.*

*Please refer to Annex 1 at the end of this document for a detailed breakdown of the units and codes within the framework*

## **Certification**

SQA will issue the commemorative certificate for the Foundation Apprenticeship.

Learning providers must ensure that they have appropriate SQA approvals in place for the Foundation Apprenticeship and all mandatory components. Candidates must be entered and resulted for all relevant units for verification and certification purposes.

Once all contributing results are entered on SQA systems, the candidate's commemorative certificate will be produced.

SQA Awarding Body quality assurance requirements apply to the delivery of the SQA component units and group awards. Centres are required to sign up to the relevant Assessment Strategy for the SVQ and comply with all its requirements.

With learners achieving the SVQ unit Develop and Maintain Working Relationships of Personal Development and/or the SVQ unit Maintain Professional Relationships and Practice in Built Environment Design they will also have gathered evidence towards the ICE development objectives.

## **Selecting an Industry Challenge in Civil Engineering**

To help to support practice, training providers, working directly with employers, may set up an "industry challenge" project. It can be done as a group activity to help introduce a concept or as an individual's own challenge.

It is important that the industry challenge reflects everyday work experience for the learners. At all stages the partnership between the school, training provider and employer is central to the success of the challenge and so the Foundation Apprenticeship.

Through Work Placements, Foundation Apprentices will begin their initial Professional Development through the acquisition and development of the special skills and a professional approach. Pupils will need to practise as a civil engineering technician. This will be developed with the training provider as well as during work placements.

## **Civil Engineering placements for the Foundation Apprenticeship**

Work Placements are critical to the successful achievement of a Foundation Apprenticeship and it is essential that strong partnerships with employers are established.

Support for the coordination and delivery of work placements is available through [Go Construct](#) which hosts resources such as:

- Construction Site Visit Guide
- Student Workbook
- Employer's Work Experience Guide.

There are a wide range of careers videos which can complement other resources or can be used as a stand-alone resource. The careers videos include case studies of role models of all ages and from a wide range of craft, technical and professional roles as well as some general videos which give a good overview of construction careers.

In preparation for work placements, delivery centres should note that many contractors require everyone to have a Construction Skills Certification Scheme (CSCS) card to access building sites.

**It is anticipated however, that for many employers, Foundation Apprentices will not need a card as they are not in employment.**

More Information can be found on: [www.cscs.uk.com](http://www.cscs.uk.com) For all young people involved in Foundation Apprenticeships learning contracts are advised.

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### Learner Selection and Entry Requirements

The Foundation Apprenticeship in Civil Engineering is aimed at pupils with an interest and enthusiasm in exploring this area of work. Although set at SCQF L6, due to the contextualised learning experience where underpinning theory and practice are aligned with industry, learners operating at SCQF L5 or above on arrival are encouraged.

### Equalities

We expect those involved in the development, recruitment and delivery of Foundation Apprenticeships to be pro-active in ensuring that no-one should be denied opportunities because of their age, disability, gender reassignment, marriage and civil partnership, religion or belief, sex or sexual orientation or pregnancy and that any barriers (real or perceived) are addressed to support all pupils. These are the protected characteristics of the Equality Act 2010 and training providers and employers must comply with this Act to ensure that applicants are not discriminated against in terms of entry to and promotion within the industry.

Our emphasis throughout is upon equality and diversity both for new entrants to the sector and opportunities for progression for the existing workforce.

### Learner Progression

Foundation Apprenticeships are directly aligned to three primary progression pathways. These are

- Modern Apprenticeship
- Further Education
- Higher Education

### Modern Apprenticeship:

A pupil completing the Foundation Apprenticeship in Civil Engineering could progress on to the following Modern apprenticeships at SCQF level 6:

- Construction Plant
- Machinery Maintenance

### Further Education:

All Scottish further education colleges recognise the Foundation Apprenticeship in Civil Engineering as an eligible qualification towards Higher National provision, alongside other qualifications.

### Higher Education:

Scottish universities recognise the Foundation Apprenticeship in Civil Engineering as an eligible qualification towards under-graduate degrees and graduate apprenticeship provision, alongside other qualifications.

## **Recognition of Prior Learning**

SQA's policy is to recognise prior learning as a method of assessing whether a learner's experience and achievements meet the evidence requirements (i.e. the standard) of a SQA Unit or Units and which may or may not have been developed through a course of learning.

More information can be found on the [SQA website](#)



## Foundation Apprenticeship Framework Specification: Civil Engineering at SCQF Level 6

GL51 46 Foundation Apprenticeship in Civil Engineering			
Group Award Title	Unit Title	SCQF Level	SCQF Credits
<b>GJ4G 46 National Certificate in Civil Engineering at SCQF level 6</b>	Mandatory Units		
	H66H 46 Civil Engineering Materials	6	6
	F3JH 12 Civil Engineering Project	6	6
	F3J6 12 Civil Engineering Site Work	6	6
	F3J7 12 Civil Engineering Technology	6	6
	H65V 46 Computer Aided Drafting: An Introduction	6	6
	F3JM 12 Construction Site Surveying: An Introduction	6	6
	H669 46 Health and Safety in the Construction Industry	6	6
	F3HV 11 Mathematics: Craft 1	5	6
	F3JC 12 Mechanics for Construction: An Introduction	6	6
	H70S 46 Mathematics for Construction Technicians Or HG51 45 Construction Engineering Mathematics	6 5	6
	Optional Units (Any 2 of the following)		
	H65X 46 Construction Technology: Ground works and Substructure	6	6
	H66G 45 Construction Calculations	5	6
	F3JK 12 Construction Measurement and Costing	6	6
	H66E 45 Drawing for Construction	5	6
	H66F 46 Environmental Building Science: An Introduction	6	6
	H66A 46 Modern Methods of Construction: An Introduction	6	6

	H65W 46 Construction Project Management: An Introduction	6	6
	H66C 46 Sustainability in the Construction Industry	6	6
(GL25 23) <i>SVQ in Construction Contracting Operations</i>	HA3P 04 Develop and Maintain Working Relationships and Personal Development in Construction OR Customised unit - J4F4 04 Develop and Maintain Working Relationships and Personal Development in Construction	6	12
<b>Work Based Learning</b>	<b>Or</b>		
(GL92 23) <i>SVQ in Built Environment Design</i>	HH8C 04 Maintain Professional Relationships and Practice in Built Environment Design OR Customised unit - J4F5 04 Maintain professional relationships and practice in built environment design	6	12
Foundation Apprenticeship Certification Unit	HE6E 04 Foundation Apprenticeship Certification unit	-	0
<b>TOTAL SCQF CREDIT POINTS</b>			<b>84</b>
<b>Optional additional SVQ units (can be offered to enhance the FA if appropriate)</b>			
	F08A 04 Operate Health, Safety and Welfare Systems	6	12
	<b>OR</b>		
	H71C 04 Health and Safety in a Construction Environment	4	4