



A Foundation Apprenticeship in Engineering at SCQF level 6

GL7C 46



This document provides the information required to deliver a Foundation Apprenticeship in Engineering.

If you need any further information please contact:

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Date Approved	April 2018
Review Date	
End Date	
Version	1.4

Version Control			
Version Number	Revision(s)	Approved by	Date
1.0		Service Design and Innovation	January 2016
1.1	Potential model of delivery update	Service Design and Innovation	March 2016
1.2	Updated Unit title and codes for SVQ Mandatory Units Minor changes; accuracy and qualification details	Brian Humphrey	Sept 2016
1.3	Updated Unit title and codes	Brian Humphrey	July 2017
1.4	Minor changes to wording, links to relevant guidance	Graeme Hendry	April 2018

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.

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 Engineering sector in Scotland

In the UK, there are 145,800 Advanced Manufacturing and Engineering establishments employing 1.7m people creating a turnover of £321bn. The sector employs 6% of the total UK workforce with 26% of all employees having completed an apprenticeship.

Engineering Enterprises in Scotland employ over 144,000 people across 12,000 establishments. Scotland accounts for about 8% of engineering employment in the UK. In terms of employment by sector: 24,000 are employed in metals, 50,100 in consultancy, testing and analysis, 10,000 in Electronics, 21,400 in mechanical equipment, 4,500 in aerospace and 14,900 in research and development, with the remaining 17,100 in other related industrial groups.¹

It is estimated that 55% of the workforce in the sectors in Scotland are employed in direct technical roles such as engineers, scientists and technologists.

Why choose Engineering?

Engineering is a challenging, exciting and rewarding career that presents a wealth of opportunities for Scotland's young people to enter a diverse and often unique field of work including research, design and development and manufacturing. The sector continues to expand and grow and the Scottish Government recognises the sector as one of the key economic priority areas for investment.

The sectors include:

- Metals (including Metal Products and Wholesale Metals)
- Mechanical equipment
- Electrical equipment
- Rubber tyres (manufacture and repair)
- Other Transport equipment (other than aerospace, automotive and marine)
- Electronics
- Marine – boat building and ship building and repair
- Aerospace
- Automotive
- Other Engineering activities (including technical testing and analysis)

¹ **Source:** Estimated by Semta from BRES 2013 and N.I Census 2013 data.

- Science Industries (R&D in natural sciences and Engineering)

The scope of Engineering also includes other related Energy and Power industries and includes:

- Transmission and Distribution
- Oil & Gas
- Renewables
- Construction
- Energy Management and efficiency
- Emerging Technologies

Apprenticeships – A recent Semta Labour Market Skills Survey indicates that 30% of all Engineering establishments within Scotland employed apprentices or recognised trainees. Within the Engineering sectors the proportion employing apprentices or recognised trainees ranged from 19% of electrical equipment and electronics establishments to 57% of other transport equipment establishments.

What is the Foundation Apprenticeship in Engineering?

Aims

The Foundation Apprenticeship (FA) in Engineering aims to give pupils the opportunity to develop the skills and knowledge to enter a career in Engineering and the Advanced Manufacturing sector and other Engineering related industries. The programme is designed to provide participants with theory, practice and related work experience. Participation will see pupils gaining a minimum credit value of 50 SCQF credits at SCQF level 6. The FA in Engineering is aimed at pupils in S5 and S6 and will take 2 years to complete.

Year 1

In year 1 pupils are expected to work towards their identified Performing Engineering Operations (PEO) level 2 units (SCQF level 5) and also a proportion of the core or restricted core units from an Engineering related National Certificate (NC) at SCQF level 6.

Year 2

In year 2 further studies will see participants complete any outstanding Performing Engineering Operations (PEO) units (SCQF Level 5) 5 units including 3 mandatory, and the remainder of any core / restricted core and optional units for the chosen National Certificate programme. The majority of work-related experience is also expected to be gained in year 2.

Work-related experience

A key component of the Foundation Apprenticeship is work-related experience. Pupils are expected to participate in real and relevant work experience with an employer. Work experience may also be gained through a well-designed and delivered Industry Challenge project. Work-related experience in the Foundation Apprenticeship is expected to be delivered across both years with the majority of employer-related activity in year 2. Work-related experience should form a minimum of 35% of the Foundation Apprenticeship programme. Industry Challenge projects should account for no more than 60% of the work-related experience and pupils should have an opportunity to use their project-based skills and experience in workplace practice. Performing Engineering Operations SVQ practical units may also be considered as part of recognised work-related experience.

Time commitment

The Foundation Apprenticeship in Engineering involves around 87 SCQF credits (870 notional learning hours) and is higher than many other sectors; this reflects the broad skills required by the sector and its variants. 300 of the hours are expected to be work-related experience. It is important to note that 1 day or 2x0.5 days per week over each school year of 38 weeks will be required to complete the programme. Additional time will be required and partners and schools are expected to negotiate the best arrangements for pupils (Annex 3 provides an example of a delivery plan for the Foundation Apprenticeship in Engineering).

Energy and Engineering: Optional expansion

Energy is a Scottish Government key sector and development work took place in 2015 to design a Foundation Apprenticeship specifically for the Energy sector. This consultation was led by Energy Skills Partnership and its main conclusion was that offering Foundation Apprenticeships in Engineering to school pupils also meets the needs of the Energy sector, specifically Oil & Gas and Energy Construction. In the annex to this Framework document details are shared on how to expand the Foundation Apprenticeship in Engineering to deliver it within a context relevant for the Energy sector.

Partnership

The Foundation Apprenticeship in Engineering requires progressive collaboration and partnership. Local Authorities and Schools will need to consider the allocation of curriculum time whilst Education and Training organisations will need to consider how they integrate and accommodate pupils to deliver the required content. Both schools and colleges will be expected to utilise their direct links with employers to encourage participation and meet the expectations of the work-related elements and experience outcomes of the Foundation Apprenticeship. It is foreseeable that there will be some challenges and it is therefore recommended that Local Authorities and schools work collaboratively with partners and actively engage parents and other key influencers regarding the Foundation Apprenticeship 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 awarding body centre and qualification approvals in place before it can deliver the Foundation Apprenticeship. In the case of Engineering, these will be SQA requirements plus EAL, where relevant.

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

Information for Centres on Foundation Apprenticeships:

- https://www.sqa.org.uk/sqa/files_ccc/InformationForCentresFoundationApprenticeships.pdf

Information for Centres on SQA Partnership Agreements, where multiple learning providers are involved:

- https://www.sqa.org.uk/files_ccc/PartnershipAgreementTemplate.pdf

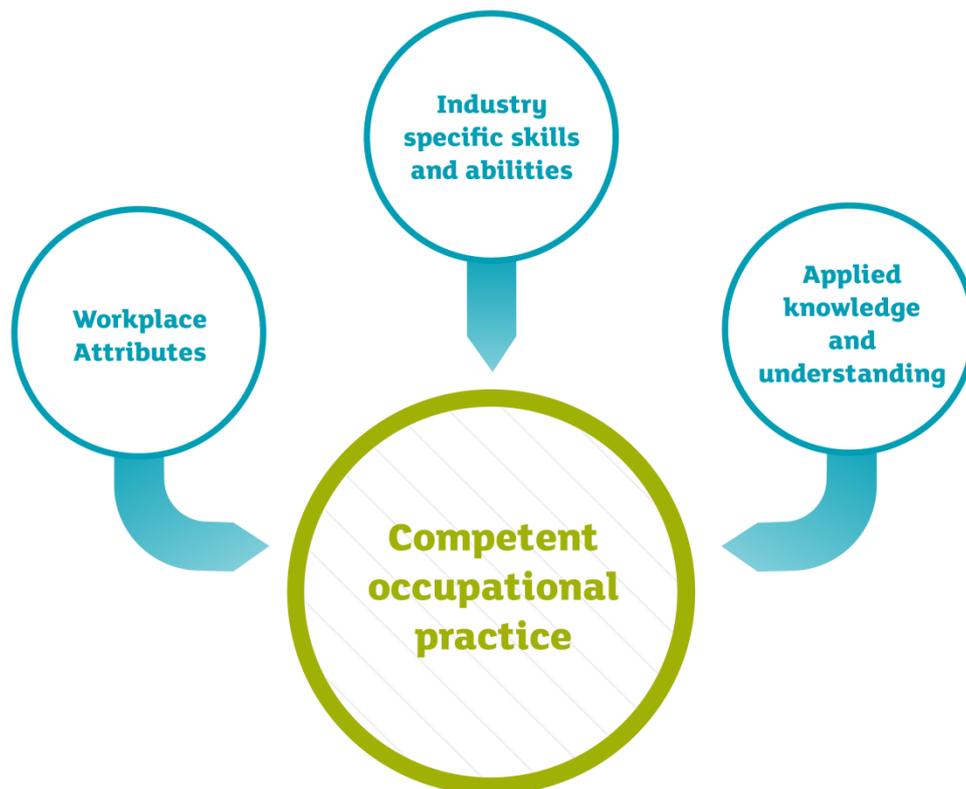
Pastoral care

It is important to remember that the pupils who are taking part in this programme are still at school and as such there is a duty of care. This includes providing appropriate health and safety training and measures to ensure the safety of the young people whilst also appointing a workplace mentor who will be a point of contact for the young person when they are outside the school environment.

Pastoral care in the Foundation Apprenticeship programme also includes making sure the placement is the right fit for the pupil and ensuring you listen to any concerns the pupil may have and provide the levels of personal support they might need to succeed. Being aware that some young people may also have additional commitments might affect some of the decisions you make about which is the most appropriate placement for the pupil. This would include being aware of any restrictions that might be in place for travelling or for after school or holiday commitments.

How should the Foundation Apprenticeship be delivered?

The following diagram illustrates the outcomes achieved for pupils and for employers from bringing together the essential elements of work-based learning in a Foundation Apprenticeship.



Providers of the Foundation Apprenticeship must deliver the following 3 components:

- Full National Certificate in an Engineering discipline at (SCQF level 6)
- 5 Units (3 Mandatory Units and any 2 optional Units) of the *Performing Engineering Operations* SVQ level 2 units
- Work-related experience / Industry Challenge

The following provides further guidance related to the component parts:

National Certificate Engineering (SCQF Level 6)

The NC in Engineering at SCQF level 6 will prepare pupils with the practical skills and knowledge needed for access to higher level study or to move into employment. It can also provide credit and progression to the Engineering Modern Apprenticeship Framework at SCQF level 6.

Providers should note that the primary focus of SCQF level 6 outcomes is different from that of the level 5 SCQF award in that it has been designed to provide a balance of relevant technological principles and practical applications suitable for participants that aspire to work at technician level.

For the purposes of an example of a permitted NC qualification at SCQF level 6 the attainment of the National Certificate in Engineering Systems requires the achievement of 12 SQA credits (1 SQA credit = 6 SCQF credits) of which 8 must be at SCQF level 6. Participants are required to complete 3 Mandatory SQA credits at SCQF level 6 plus 5 restricted Core credits at SCQF level 6 and a further 4 optional credits at SCQF level 5 or 6 depending on subject choice.

The minimum needed to attain the National Certificate component of the Foundation Apprenticeship is 8 NC Core / restricted Core Units plus 4 optional units with a minimum tariff value of 50 SCQF points to be gained at SCQF level 6.

Evidencing across qualifications

Lead partners are encouraged to consider using evidence across qualifications and to cross reference where appropriate. For example, SVQ PEO (Performing Engineering Operations) evidence may be used as evidence for NC (National Certificate) units where this is appropriate. Evidence used in this way must be carefully tracked, agreed and externally quality assured by the relevant awarding Organization(s).

NC Project, PEO & work-related experience

Providers should review the criteria for any NC Project outcome where it exists, and seek to align the activity with a relevant Industry Challenge project and employer work experience as part of the delivery. In addition, where appropriate, SVQ Performing Engineering Operations at SCQF level 5 can be combined to provide candidates with opportunities to acquire a wide range of skills and knowledge also. Providers will work with partners to determine the required frequency of attendance at their college or provider centre to deliver and achieve stated outcomes. The principles relating to the transfer and use of evidence from other sources applies as do arrangements in respect of external quality assurance.

Performing Engineering Operations Level 2 (SCQF Level 5)

The SVQ in Performing Engineering Operations is intended for people starting a career in Engineering or manufacturing, or are employed and are carrying out engineering tasks. They will require skills and knowledge in Health and Safety, be able to interpret technical information and be competent and familiar with managing their own personal work space whilst carrying out a range of engineering activities. The SVQs are designed to be assessed in the workplace, or in conditions that reflect the workplace. Examples of the settings in which the SVQs are likely to be delivered include: workshops in highly supervised and controlled environments, colleges, training providers, and employer approved environments. The concept of a Foundation Apprenticeship is that pupils should have an opportunity to be in a real world setting and strong local partnerships with employers are necessary to achieve this aim.

Foundation Apprentices are required to complete a minimum of 3 mandatory units of Performing Engineering Operations. This will provide 15 credits points (SCQF level 5) and they are also required to do a further optional 2 units with a combined minimum value of 44 SCQF credit points (SCQF Level 5). Training Providers and Scotland's Colleges are expected to follow the existing rules of combination. They must also follow the assessment requirements for units clearly identified as needing real work and placement evidence. This will help in making choices on the required optional units. Providers are required to liaise closely with employers regarding the choice of PEO optional units to ensure that they can adequately support the Employer Skills requirements and align to potential career opportunities within their region appropriately.

Structure of the Foundation Apprenticeship in Engineering

Providers can use any of the following National Certificate qualifications options as the required National Certificate to underpin the programme and in addition must deliver 5 units of SVQ Performing Engineering Operations including the 3 Mandatory units plus 2 further optional units.

GL7C 46 Foundation Apprenticeship in Engineering			
Group Award Title	Unit Title	SCQF level	SCQF Credit points
One from:			
G9CC 46 NC in Engineering Systems	as per NC specification	Individual unit levels vary. NC contains at least 36 SCQF credits at level 6.	72
G97J 46 NC in Mechanical Engineering	as per NC specification		72
G97H 46 NC in Aeronautical Engineering	as per NC specification		72
G9AF 46 NC in Electrical Engineering	as per NC specification		72
G9AG 46 NC in Electronic Engineering	as per NC specification		72
G984 46 NC in Fabrication and Welding Engineering	as per NC specification		72
G97L 46 NC in Manufacturing Engineering	as per NC specification		72
G987 46 NC in Measurement and Control Engineering	as per NC specification		72
GL6E 22 [EAL Code GL2P 22] SVQ in Performing Engineering Operations at SCQF level 5 (part of)	HE9D 04 [EAL Code SPE02/001A] Complying with statutory regulations and organisational safety requirements	5	5
	HE9C 04 [EAL Code SPE02/002A] Using and Interpreting Engineering Data and Documentation	5	5
	FR0T 04 [EAL Code SPE02/003A] Working efficiently and effectively in engineering	5	5
	option unit 1	var	var
	option unit 2	var	var
Foundation Apprenticeship Certification Unit	HE6E 04	-	0
TOTAL SCQF CREDIT POINTS			min 87

Check individual NC Engineering disciplines content to establish Core and restricted Core Units for use.

1 SCQF credit point is equal to 10 notional hours of learning.

Governance and quality

As with the Modern Apprentice programme Semta attaches significant value to the quality of the delivery of programme content and experience for those participating and achieving the outcomes of the Foundation Apprenticeship. To support continuity and consistency of delivery all those organisations leading delivery should be approved by Semta and recognised by Semta's existing Modern Apprenticeship approval delivery arrangements and existing criteria.

Certification

SQA will issue the commemorative certificate for the Foundation Apprenticeship.

Depending on the professional qualification unit pathway chosen, learning providers must ensure that they have appropriate approvals in place with [the relevant awarding bodies (SQA and EAL where relevant) 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.

Selecting an Industry Challenge in an Engineering setting

To help support practice, training providers or colleges working directly with employers may set up an "industry Challenge" project. This 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 pupils. At all stages the partnership between the school, Training Provider / FE college and employer is critical to the success of the challenge and so the outcome of the Foundation Apprenticeship. Examples of challenges might come from evidence of improvements or enhancements identified by the employer in their production and manufacturing environments, the need for technological change or specific industry and client-based project matter. Current Engineering Education Schemes that senior phase pupils are actively engaged in with employer support should also be considered as to whether they can support the outcomes of the Industry Challenge requirements.

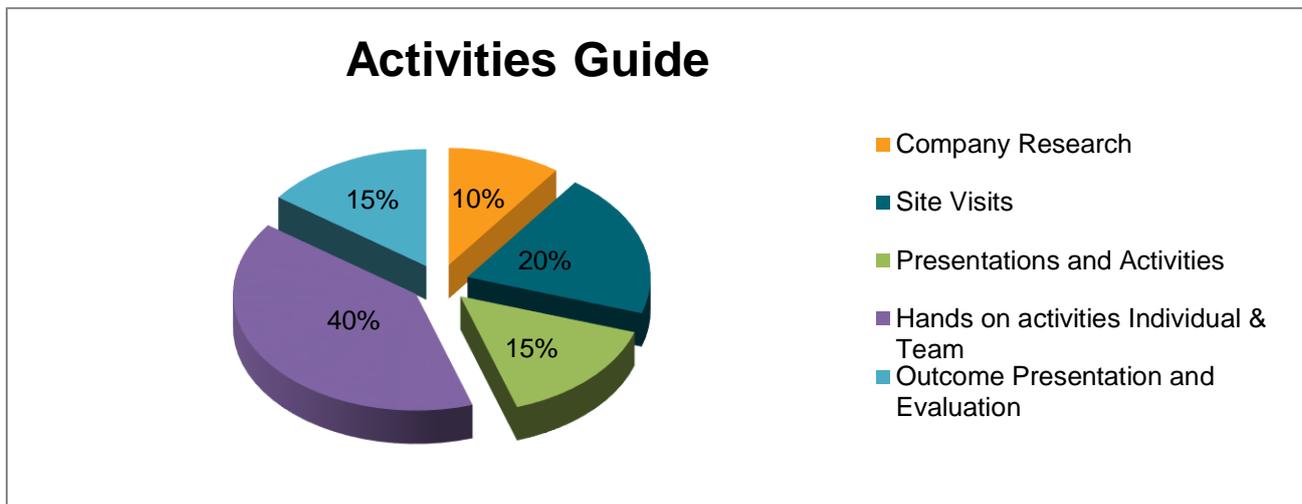
Any framework for an Industry Challenge Project should contain the following criteria:

- Based on real life work
- Contain SMART tasks and objectives
- Project outcomes are assessed against agreed criteria
- Delivered and led either in employer or FE/ provider environments
- Resourced by industry
- Specified by industry
- Supported by industry
- Industry Challenge projects should be around 100-150 notional learning hours.

Industry Challenge projects can be group or individual orientated.

Annex 2 provides further notes and timetable example

The chart below shows how activities might be segmented for the purposes of an Industry Challenge Project.



Skills & Competencies

Activities	Creativity and Motivation	Teamwork	Organisation & Planning	Critical thinking & problem solving	Understanding Career Opportunities	Self-Management	Understanding the Business	Language Skills & Numeracy
Company Research & Fact Finding			√		√		√	
Company Introduction & Presentation		√					√	
Company Site Visits	√		√		√			
Project Planning & Resource			√	√		√		√
Project Delivery and Hands-on Activities	√	√	√	√		√	√	√
Evaluation Project Reporting & Outcomes	√	√	√	√	√	√	√	√

Industry visits

Industry visits are useful and important to the pupil's sense of motivation. The visits provide the

opportunity to engage with employers whilst seeing and understanding the workings of a variety of engineering sectors. Evidence supports that this inspires and motivates the pupils informing them of potential positive destinations.

Selection of pupils and entry requirements

Potential candidates for the Foundation Apprenticeship in Engineering are likely to be those who are ready to work at SCQF level 5 as a minimum. They are also likely to have the potential to develop to SCQF level 6; however, this is a different way of learning from academic settings. Those participating will need to have a good level of written and spoken English and a real aptitude for problem solving. Maths at SCQF level 5 and working towards success in Higher Maths would be an expectation. The use of Maths is critical to the understanding and application of theory and practice in the workplace and is a key competence as is a further STEM-based subject and therefore participating pupils will be expected to be in S5. Participants can also demonstrate this partly through previous and existing school project work, related hobbies and interests. Working in Engineering requires participants to be both creative and innovative and pupils should be prepared to go through an interview process. They may also be required to take an aptitude test to assess their suitability for a career in Engineering. A number of providers and colleges are delivering the programme beyond the normal school day and schools and pupils will need to balance how this might affect participation in the programme.

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.

In terms of equalities Semta recognise the gender challenges relating to sector and industry. Semta works closely with all partner organisations to ensure equal access to Modern Apprenticeship frameworks and industry valued programmes. Further support for employers and providers in relation to gender balance can be found at Equate Scotland:

www.equatescotland.org.uk/what-we-do

Enhancement

Success in the Foundation Apprenticeship programme will provide participants with recognised components in full and in part of the Modern Apprenticeship programme, i.e. National Certificate SCQF 6, and 5 of the 8 required SVQ PEO (Performing Engineering Operations) units at SCQF 5.

Recognition of prior learning

The recognition of prior learning (RPL) may also be important and is the process for recognising learning that has its source in experience or in previous learning contexts.

Using RPL to recognise informal learning involves learners reflecting on what they have learnt from their experience and how they can use this to support their current learning. Pupils may also have a

range of voluntary or leisure activities they can use in a similar way. An example of this might be the Duke of Edinburgh award or experience in youth groups.

Learners may already have SCQF credit points for formal learning and it may be possible to transfer some of this credit to another qualification. This is called credit transfer. Pupils completing a Foundation Apprenticeship may be able to transfer credit from this to further learning programmes.

Pathways into the workplace and into post-secondary education

Completion of the Foundation Apprenticeship may allow pupils to seek direct employment within the sector and in addition present their achievements to employers as part of their recruitment and selection arrangements for Modern Apprenticeship candidates. As part of this arrangement employers and their education partners can work towards completing any remaining PEO Units for the SVQ full award and align them to employer requirements. In addition, a further SVQ level 3 (SCQF Level 6/7) Engineering qualification and the remaining components of the 5 Core Skills (SCQF level 5) will need to be achieved to complete the full Modern Apprenticeship programme and outcomes. The expected study time for such an arrangement would be 2/3 years as opposed to 3/4 years for candidates entering the scheme directly with no previous Engineering experience or related qualifications.

Also, pupils may use their achievement for acceptance and progression on to programmes that lead to higher level awards including HNC (Higher National Certificate) and HND (Higher National Diploma) in Engineering related subjects with Scotland's Colleges. Semta anticipates some universities will consider the FA in Engineering as one component of entry to an Engineering degree or to a graduate level apprenticeship programme, currently under development.

Further information

Further information about Engineering and Engineering education schemes can be found on the Semta website and also at the following:

www.semta.org.uk/careers/apprenticeships

www.theiet.org

www.adsgroup.org.uk

www.esp-scotland.ac.uk

www.opito.com/about

www.euskills.co.uk/our-industries

www.etrust.org.uk/engineering-education-scheme

www.engineeringuk.com/Tomorrows_Engineers

To further encourage young people into industries across Science, Technology Engineering and Maths the sector has enlisted people who currently work in all types of Engineering and STEM-related activities. These volunteer ambassadors can provide information on careers in STEM across Scotland as they inspire a new generation to join the sector. Find further information at: www.stemnet.org.uk.

Annex 1



The framework and content of this Foundation Apprenticeship has been agreed with, and supported by SEMTA. SEMTA are the Sector Skills Council for the Engineering and Advanced Manufacturing sector – www.semta.org.uk

In agreeing the framework SEMTA is providing the following information to employers and to pupils.

Those participating in the Foundation Apprenticeship in Engineering who successfully complete the programme and components will achieve a National Certificate in an Engineering discipline at SCQF level 6 and 5 units of Performing Operations SVQ at SCQF level 5. This content is recognised as part of the full Modern Apprenticeship in Engineering and is a significant achievement towards the required components. Participants who go on to complete the Modern Apprenticeship in Engineering will be required to complete a further 3 PEO (Performing Engineering Operations) SVQ units and a further SVQ in an Engineering discipline at SCQF level 6/7) and requisite Core Skills units.

Those participating in Foundation Apprenticeship in Engineering will be provided with a full certificate value to show their achievements.

The Foundation Apprenticeship in Engineering is designed to be flexible and support a significant wide range of opportunities that arise within sector, and equally be recognised for purposes of further study.

A young person either seeking progression direct into industry or that of advanced further or higher education study will have both knowledge and capability to undertake further progression. Those sectors and industries represented by SEMTA, and those closely aligned, support the Foundation Apprenticeship initiative.

Annex 2

Exemplar Timetable /Framework

The exemplar timetable below is for a manufacturing Industry Challenge project over a period of 10 days and shows the added-value components, provided by a potential employer and college / provider together.

Day 1

- Introduce Client / Employer & product specification
- Task / Product discussion, duration and induction
- Employer site visit & project resource needs
- PPE & general Health and Safety

Day 2

- Project client brief
- Project personnel & roles and responsibilities established
- Project planning and skills assessments
- Project plan and format of activities recording agreed

Day 3

- Project planning & development
- Visit from client
- Health & Safety site & project issues identified

Day 4

- Project development
- Preparation of project materials

Day 5 /6

- Client / Employer visits and project presentation
- Project delivery

Day 7

- Project delivery & review of progress
- Confirmation and review of any agreed timelines for final outputs

Day 8 / 9

- Project final stages
- Project completion
- Client / Employer visit for review and confirmation of outputs
- Updating and review of accuracy of project records
- Preparation for client handover and commissioning

Day 10

- Client Employer reception and project process presentation
- Review and evaluation and completion of records
- Creation and recording of personal learning experience via portfolio

Notes

Industry Challenge – Project Component

Background and Guidance

The Project is a major component of Foundation Apprenticeship work-based learning pathway. There are number of key principles that underpin the project including:

- Based on real work
- SMART tasks
- Be capable of being assessed

Projects by their very nature can be created, managed, delivered and assessed in Employer environments or simulated environments including FE College Engineering workshops and that of Private Training providers. The guiding principles for all projects whether delivered in Employer environments or simulated Engineering workshops are that the projects are specified by industry, resourced by industry, supported and assessed by industry. Projects can either be led by Employers or the Education and Training organisation.

Key features of the project will include:

- Induction
- Health & Safety brief
- Project structure
- Project content (student & employer)
- Communication
- Evaluation
- Accreditation (where relevant)

The Industry Challenge project has the ability, where well managed and co-ordinated, to provide an opportunity to extend access to a wide range and diversity of employers to become actively engaged though support is likely to be in a simulated workplace. Simulated Engineering workshop environments include both FE College and Private Training Provider dedicated facilities. Such an approach would be supportive of SME's engagement in addition to other larger employers and allow them to contribute successfully whilst not be committed to using their own on-site environments. Projects delivered in simulated environments would be delivered to an agreed scope and standard using a framework as identified previously.

Employers should be actively encouraged to participate in the project activity, delivery and outcomes, and education partners should set out clearly their expectations for employer engagement and participation. Well managed and delivered projects will see employers specify the task, provide resources as appropriate and support the delivery and completion of the task. An example of how employers might provide resource could include the use of Modern Apprentices to work closely with Foundation Apprentices on the project and agreed delivery outcomes. This additionally has the benefit for Foundation Apprentices to work alongside positive role models. Furthermore, employers benefit from the mentoring skills that Modern Apprentices develop.

Annex 3

Potential Model for Delivery of a Foundation Apprenticeship in Engineering

Using the National Certificate in Engineering Systems the following is a potential model of delivery for a Foundation Apprenticeship Programme:

Year 1		Block 1	Block 2
	1 full or 2x½ days per week (Year 5 pupils)	Engineering Principles	Single & Phase 3 Principles
		Process Measurement and Control: An Introduction	
		Engineering Materials	Graphical Engineering Communication
		Health and Safety Engineering	
Year 2			
	1 full day or 2x½ days per week Plus additional agreed curriculum timetabling (Year 6 pupils)	Statics	Engineering Dynamics: An Introduction
		Communication	Engineering: Applying IT
		PEO (SCQF5) optional unit	PEO (SCQF 5) optional unit
		Industry Challenge Project and / or Employer work placement	

Notes

- Additional agreed curriculum timetabling may lead to 2 full days per week in Year 2

Annex 4: Foundation Apprenticeship in Engineering: Energy Option



Background

Energy is a Scottish Government key sector and development work took place in 2015 to design a Foundation Apprenticeship specifically for the Energy sector. The consultation and development was led by the Energy Skills Partnership.

The Energy Skills Partnership established a collaborative model to increase Scotland's capacity to deliver skills and prevent duplication of effort and investment for the energy, engineering, construction and emerging technologies by ensuring capacity, quality and affordability. Through this consortium approach Scotland's colleges are ensuring that the right skills are being delivered and raising industry awareness to ensure Scotland has the workforce, skills and competence required by the energy sector in the future.

The partnership scope includes the development and delivery of education and skills provision across identified industrial themes:

- Engineering
- Energy
- Renewables
- Transmission and Distribution
- Oil and Gas
- Construction and Energy Management and Efficiency
- Emerging Technologies

Energy Skills Partnership's consultation led to agreement between parties that the Foundation Apprenticeship for Engineering meets the needs of the energy sector.

Based on this agreement, Energy Skills Partnership developed the following recommendations to include optional Energy specific elements to a Foundation Apprenticeship in Engineering.

Optional units

The following optional energy units can be utilised as part of the FA in Engineering:

- Offshore Renewable Energy Systems. Unit code: FV2X 11 (SCQF Level 5)
- Energy: Oil/Gas Extraction. Unit code: F3FW 11
- Skills for Work SCQF Level 5: 0.5 credit
- Energy: Energy and the Individual. Unit code: F3FT11
- OPITO Introduction to Oil and Gas – not leveled

Additional Energy Activities

Energy-specific site visits

Presentations by & activities with STEM ambassadors from Energy sector

Energy-specific Industry Challenge (in line with general Engineering guidelines).