Skills Development Scotland

Foundation Apprenticeship in Engineering at SCQF Level 6

Learning Provider Guide to Support Employers

SQA

Harley
former Foundation Apprentice
now Modern Apprentice

Aims

The aim of this guide is to support Learning Providers to identify and discuss with employers' appropriate activities for learners during a Foundation Apprenticeship work placement.

It provides the following information:

- **What are Foundation Apprenticeships?**
- **The definition of work-based learning in the context of Foundation Apprenticeships**
- **How a Foundation Apprenticeship is delivered**
- **How employers can support learners**
- **An understanding of the Scottish Vocational Qualification (SVQ) units within Foundation Apprenticeship qualifications**
- **Practical examples of work-based activities and evidence for the SVQ units within the Foundation Apprenticeship in Engineering at SCQF Level 6**
- **Links to useful resources**

"Choosing a Foundation Apprenticeship opened my eyes to the opportunities that are available and helped me develop relevant skills and knowledge"

Harley, former Foundation Apprentice now Modern Apprentice

Harley
former Foundation Apprentice
now Modern Apprentice

What are Foundation Apprenticeships?

Foundation Apprenticeships are designed to provide school pupils with industry experience whilst gaining a work-based learning qualification at the same level as a Scottish Higher (SCQF Level 6).

A Foundation Apprenticeship is an industry-recognised qualification, designed to offer valuable insight and experience of the world of work. Delivered by learning providers in partnership with employers, knowledge gained is supported through a series of practical activities including industry projects or placements undertaken virtually and/or in person.

Foundation Apprenticeships at SCQF Level 6 are available in a wide range of subjects that are linked to the growth sectors of the Scottish economy:

- Accountancy
- Business Skills
- Civil Engineering
- Creative and Digital Media
- Engineering
- Financial Services
- Food and Drink Technologies
- Hardware and System Support
- Scientific Technologies
- Social Services and Healthcare
- Social Services Children and Young People
- Software Development

What is work-based learning and how does it apply to Foundation Apprenticeships?

For the purposes of this guide, work-based learning means learning that is directly linked to skills and knowledge required to operate competently in a workplace. A major component of a Foundation Apprenticeship is the sector specific work-based learning. In this context, work-based learning relates directly to the activities undertaken by learners whilst they are on a work-placement.

This provides the first-hand experience for learners to acquire sector specific skills, apply knowledge and reflect on their learning. These activities count towards the overall learning and assessment of the units from the Scottish Vocational Qualification (SVQ) within each Foundation Apprenticeship.

How is a Foundation Apprenticeship delivered?

Foundation Apprenticeships are chosen as a subject choice in S5 or S6 and taken alongside other National and Higher qualifications. Pupils work towards the Foundation Apprenticeship qualification over either one or two years.

Learning providers work alongside employers to develop the knowledge and skills learners need to meet all the outcomes of the Foundation Apprenticeship qualification. This includes the classroom-based teaching of knowledge and understanding elements of the Foundation Apprenticeship undertaken with the Learning Provider. This is combined with work-based learning opportunities with an employer to provide learners with the experiential learning they need to apply their learning directly in the workplace, ultimately to meet the requirements of the SVQ units of the Foundation Apprenticeship qualification.

Learners attendance depends on whether they take part in a 1 year or a 2-year programme.

- 1 year = 1 day with employer and 1 day or 2 half days at college or training centre
- 2 years = 1st year – 1 day a week at college or training centre with some employer input = 2nd year = 1 day a week at work placement.

Attendance on the programme will be a mix of classroom-based activity and employer placement. The placement element is typically one day per week but can be flexible to meet the needs of the sector and employer for example, block intake.

1 The term 'learners' is used in this guide to refer to pupils.

Employer involvement

The involvement of employers is a critical aspect of Foundation Apprenticeships and includes:

- Providing learners with a work placement to enable them to gain valuable experience in the workplace
- Providing learners with appropriate work-based opportunities to enable them to develop their learning and skills
- Ensuring all work-based learning provided is based on current expertise, equipment, practices and processes
- Setting employer led projects industry challenge projects

Employers may also be involved in other activities, for example, the recruitment and selection process, guest speaking, coaching and mentoring, and in the assessment of practice of learners.

The learning provider meets regularly with employers to provide on-going support and ensure learners are being supported and are working on the right types of activities.

Scottish Vocational Qualification units

It is important that employers understand the SVQ units within a Foundation Apprenticeship, as this will help them to provide learners with access to work-based activities that are relevant to the SVQ units they need to complete.

Within every Foundation Apprenticeship there are a number of SVQ units which relate to a particular occupational function, and which provide the standards upon which competence is assessed in the workplace.

SVQ units are derived directly from National Occupational Standards (NOS) which describe what an individual needs to do (performance criteria), know and understand (knowledge and understanding criteria) to demonstrate competence in the unit. Evidence (assessment) requirements specify the type and amount of evidence required for the unit and are developed by an Awarding Body to complete the unit development when it is used to form part of a qualification structure.

Learners must provide evidence they are competent across all criteria to meet the requirements of all SVQ units within the Foundation Apprenticeship. All evidence is assessed against the standards and leads to an overall judgment being made by an assessor on whether the learner is competent or not yet competent. Where a learner is found to be not yet competent in any part of the standards, they will be given the opportunity for further training and to provide further evidence for assessment at a later date.

Acceptable performance in a unit will be the satisfactory achievement of the standards set out in the SVQ unit specification. Every SVQ unit has knowledge statements which underpin competence.

About the assessment of SVQ units

Assessment is the process of evaluating an individual's attainment of knowledge, understanding and skills. Assessment of the SVQ units involves generating and collecting evidence of a learner's attainment of knowledge, understanding and skills and judging that evidence against defined standards.

The Guide to Assessment covers a wide range of assessment methods in unit assessments for school, college and workplace qualifications as well as external assessment for National Qualifications. There are three essential forms of assessment: observation, product evaluation and questioning. Assessment can also use a combination of some or all of the three forms. All assessment methods, such as a project or performance, can be classified under one or more of these forms.

SVQ units are assessed internally by centres, this means that work-place assessors are responsible for deciding whether evidence meets the standards for SVQ units. The assessors are identified by the centre, they are occupationally competent in the role and professionally competent in conducting work-based assessment (or working towards this). The internal assessment decisions are externally verified by the Awarding Organisation who offers the units.

Evidence must meet the following requirements:

Valid	The assessment method chosen will be appropriate to the standards being assessed. It will produce evidence relevant to the standards.
Authentic	The evidence will be the learner's own work.
Current	The evidence will exemplify the current level of the learner's performance.
Reliable	The assessment decision is comparable and consistent with other assessors within the centre.
Sufficient	The evidence will demonstrate competence over time (e.g. not just a single occasion).

Harley
former Foundation Apprentice
now Modern Apprentice

Links to useful resources

Foundation Apprenticeship Guidance Note:

Engineering Framework

This document provides all the information needed to deliver the Foundation Apprenticeship in Engineering at SCQF Level 6. The temporary framework (GR93 46) developed by SQA and SDS for the Foundation Apprenticeship in Engineering in response to COVID-19 will continue to be available in 2023.

Developing the Young Workforce

Work Placements Standard: This document sets out the expectations for a young person, school, employer, local authority and parent/carer, before, during and after work placements. Refer to this document for information to help improve the quality of learning in the workplace.

SQA Guide to Assessment

This guide is designed to provide support for everyone who assesses SQA qualifications. It covers the full range of SQA qualifications and is based around the principles of assessment, that all qualifications must be valid, reliable, practicable, equitable and fair. Refer to this document for information on unit content and standards, methods of assessment and acceptable evidence.

FA Placement Options

Meta skills support documentation

Employer Welcome Pack

This guidance has been developed to share best practice and support employers to get the best experience from their involvement in Foundation Apprenticeships

Practical Examples

Examples of activities and evidence for the SVQ units: A Foundation Apprenticeship in Engineering at SCQF level 6 (GR93 46)

These examples support employers in identifying suitable work-based activities to develop the practical skills of S5 and S6 pupils during the work placement component of the Foundation Apprenticeship in Engineering at SCQF level 6 (GR93 46). This Foundation Apprenticeship requires learners to complete three units from the SVQ in Performing Engineering Operations at SCQF level 5 which are delivered and assessed while on placement in the workplace. These units are mandatory and are outlined below:

- FR0T 04 Working Efficiently and Effectively in Engineering
- HE9C 04 Using and Interpreting Engineering Data and Documentation
- HE9D 04 Complying with Statutory Regulations and Organisational Safety Requirements

The table below provides generic examples of typical work-based activities and examples of possible evidence which may support the development of the practical skills for each of the three SVQ units. Please note, these are examples and are not intended to be prescriptive. Some examples of activities and evidence are holistic in nature therefore may cover several performance criteria (and knowledge and understanding) within a unit and/or across units, as opposed to aligning with a single performance criteria. This supports good practice in the holistic approach to assessment, which in turn reduces the volume of evidence required by leaners and reduces bureaucracy in assessment.

It is important to note not all work-based activities may be suitable for a pupil to undertake (e.g. not an employee). For example, there may be a legislative reason a pupil/non-employee cannot conduct a particular activity within a workplace.

FR0T 04 **Working Efficiently And Effectively In Engineering**

Performance Criteria What the learner needs to be able to do to demonstrate competence within the unit	**Examples of work-based activities** which may support learners to develop the required practical skills in the unit	**Examples of evidence** which may support learners to demonstrate the practical skills in the unit (product evaluation, observation and questioning)
P1 Work safely at all times, complying with health and safety and other relevant regulations and guidelines	■ Locating and investigating previous risk assessments ■ Carrying out risk assessments specific to work activity including COSHH hazards, manual handling hazards, noise hazards, Personal Protective Equipment etc	Examples for the unit: ■ Risk assessment documentation ■ Learner's risk assessment carried out prior to commencing work activities ■ Completed checklists of tools required to carry out work activity ■ Permit to work ■ Relevant safety data sheets (COSHH) ▶ Continues on next page

continues on next page ▶

Performance Criteria	Examples of work-based activities	Examples of evidence
P2 Prepare the work area to carry out the engineering activity	■ Ensuring work area is clear and tidy prior to commencing work activity ■ Preparing/assembling tools to carry out engineering work activity ■ Carrying out required isolations of machinery ■ Assembling safety equipment and making available at work area (e.g. spill kit)	■ Working copies of any relevant equipment documentation showing material requirements for work activity ■ List of stores requirements used for work activity ■ Work order listing materials signed off by supervisor ■ Screenshots indicating use of stores database ■ Copies of stores requests ■ Learner's log book of completed work activities signed off by supervisor, detailing problems encountered and recommendations ■ Photographic evidence showing problem and solutions ■ Records of suggestions submitted (e.g. emails) ■ copies of STOP Cards, (or equivalent), submitted ■ Minutes of meetings attended/Toolbox talks and contributions ■ Testimonials from learner's journeyman of work activity completed ■ Learner's personal development plan ■ Records of meetings with supervisor/manager
P3 Check there are sufficient supplies of materials and/or consumables and that they meet work requirements	■ Using equipment documentation to identify any materials and consumables required for work activity ■ Checking availability of materials and consumables with stores or on relevant database	
P4 Ensure completed products or resources are stored in the appropriate location on completion of the activities	■ Assembling cleaning and checking tools for any damage ■ Returning to their correct stowage ■ Disposing of used consumables of in accordance with relevant regulations (e.g. oils, grease, solvent cleaners etc)	
P5 Tidy up the work area on completion of the engineering activity	■ Cleaning up work area and returning all tools	
P6 Deal promptly and effectively with problems within your control and report those that cannot be resolved	■ Logging any problems encountered, (including solutions), during work activities	

continues on next page ▶

Performance Criteria	Examples of work-based activities	Examples of evidence
P7 Contribute to and communicate opportunities for improvements to working practises and procedures	■ Participating and contributing to meetings (e.g. weekly toolbox talks) ■ Submitting suggestions for improvements ■ Working alongside a journeyman	◀ See previous page
P8 Maintain effective working relationships with colleagues	▲ See above	
P9 Ensure completed products or resources are stored in the appropriate location on completion of the activities	■ Producing and maintaining a personal development plan detailing short and long-term goals ■ Taking part in regular meetings with manager to review progress and discuss training and development	

Notes

A holistic approach has been taken to provide examples of activities and evidence which may cover performance criteria within and across units. This promotes efficient and effective gathering of evidence. Sources of evidence may include; samples, photographic evidence (where appropriate, eg P2, P4, P5 and P6), video evidence, emails, projects, work-based assignments; reports and related material, job logs, checklists, personal statements, records of professional discussion etc. Learners should keep a log detailing the steps for all work-based activities carried out.Photographic evidence could be taken by the learner, where appropriate, to both enhance their log and to demonstrate they have met the criteria for the unit. i.e. P2, P4, P5 and P6. Learners should be supervised at all times when making machinery isolations. Electrical isolations should not be carried out by learners. Guidance on simulation can be found in the **Assessment Strategy**. Where permitted, simulation should only be undertaken in a minority of situations, for example where there is a potential risk to the learner or others. To be effective, simulation must succeed in recreating the atmosphere, conditions and pressures of the real situation.

Where simulation/replication is required, assessors must obtain agreement from internal verifiers before assessing learners.

HE9C 04 **Using And Interpreting Engineering Data And Documentation**

Performance Criteria What the learner needs to be able to do to demonstrate competence within the unit	**Examples of work-based activities** which may support learners to develop the required practical skills in the unit	**Examples of evidence** which may support learners to demonstrate the practical skills in the unit (product evaluation, observation and questioning)
P1 Use the approved source to obtain the required drawings and specifications **P2** Correctly interpret the drawing and specifications **P3** Identify, extract and interpret the required information **P4** Use the information obtained to ensure that work outputs meets the specification **P5** Deal promptly and effectively with any problems within your control and report those which cannot be solved **P6** Report any inaccuracies or discrepancies in drawings and specifications **P7** Check the currency and validity of the data and documentation used **P8** Exercise care and control over the documents at all times **P9** Correctly extract all necessary data in order to carry out the required tasks **P10** Seek out additional information where there are gaps or deficiencies in the information obtained ▶ Continues on next page	■ Locating relevant documentation for work activities ■ Utilising drawings during work activities ■ Drawing up job plans using drawings and specifications ■ Ordering and drawing from stores parts or consumables recommended in specifications ■ Locating technical information relevant to work activities ■ Listing information relevant to work activities ■ Setting torque wrench to correct settings and torqueing bolts ■ Measuring components to ensure they are within tolerance ■ Using feeler gauges to check clearances ■ Ordering and drawing from stores correct grade of lubricant ■ Removing and replacing damaged components (e.g. bolts, nuts, gaskets, seals, bearings) ■ Cleaning up spills during work activities ■ Checking drawings and specifications throughout work activities and comparing drawing specifications to job (e.g. tolerances, clearances, sizes, wear limits) ▶ Continues on next page	Examples for the unit: ■ Copies of relevant documentation utilised during work activities (e.g. from specific manuals or support data, Zeus tables, torque settings charts, welding specifications, cutting speeds etc) ■ Screenshots of digital documentation used, internet searches undertaken and information found, publication dates etc. ■ Copies of job plans and working copies of documentation used ■ Lists of specifications associated with work activities job (e.g. lubricants to be used, quantity of lubricant, gaskets to be replaced etc) ■ References to relevant manuals or specifications used including records of any discrepancies found in specifications ■ Records of log entries indicating specifications were adhered to during work activity; detailing conversions, components replaced etc. ■ Records of completed work orders and job reports showing specifications have been adhered to; detailing components replaced; showing how information was used etc ■ References to documentation used indicating date of publication and updates ▶ Continues on next page

continues on next page ▶

Performance Criteria	Examples of work-based activities	Examples of evidence
P11 Deal with or report any problems found with the data **P12** Make valid decisions based on the evaluation of the engineering information **P13** Return all documentation to the approved location on completion of the work **P14** Complete all necessary production documentation **P15** Use information extracted from mechanical and/ or electrical/electronic documentation **P16** Use information extracted from related documentation **P17** Extract information	■ Checking documentation used is the most up to date version ■ Check for changes to currently held documentation ■ Storing documents and manuals appropriately ■ Taking the appropriate working copies from master documents of relevant pages required on site ■ Listing information relevant to work activity prior to commencing ■ Carrying out internet search for standard torque settings, tolerances, fits and clearances ■ Carrying out search for alternative lubricants or coolants ■ Locating safety data sheets (internet search) ■ Converting imperial measurements to metric measurements ■ Highlighting problems found with data to supervisor/ journeyman ■ Utilising information from manuals/ specifications in engineering tasks (e.g. torque settings, cutting speeds, clearances, tolerances etc) ■ Returning workshop manuals to correct location	■ Supervisor/journeyman's testimonial relating to activities completed by the learner ■ Minutes of meetings/toolbox talks ■ Log book entries ■ Records of risk assessments undertaken

Notes

A holistic approach has been taken to provide examples of activities and evidence which may cover performance criteria within and across units. This promotes efficient and effective gathering of evidence. Sources of evidence may include; samples, photographic evidence (where appropriate), video evidence, emails, projects, work-based assignments; reports and related material, job logs, checklists, personal statements, records of professional discussion etc. Learners should keep a log detailing the steps for any tasks carried out for all work-based activities. Learners should initially be supervised and assisted by a journeyman and only allowed to work unsupervised once deemed competent and only on tasks suitable for his/her experience. Guidance on simulation can be found in the **Assessment Strategy**. Where permitted, simulation should only be undertaken in a minority of situations, for example where there is a potential risk to the learner or others. To be effective, simulation must succeed in recreating the atmosphere, conditions and pressures of the real situation.

Where simulation/replication is required, assessors must obtain agreement from internal verifiers before assessing learners.

HE9D 04 **Complying With Statutory Regulations And Organisational Safety Requirements**

Performance Criteria What the learner needs to be able to do to demonstrate competence within the unit	**Examples of work-based activities** which may support learners to develop the required practical skills in the unit	**Examples of evidence** which may support learners to demonstrate the practical skills in the unit (product evaluation, observation and questioning)
P1 Comply with your duties and obligations as defined in the Health and Safety at Work Act	■ Carrying out risk assessment prior to undertaking engineering task including, where relevant, any PPE, manual handling and/or COSHH requirements (P1 and P4) ■ Using relevant work equipment regulations	Examples for the unit: ■ Copy of risk assessments used by the learner ■ Supervisor/journeyman testimonial of the learner following safety requirements ■ Copies of relevant health and safety documentation completed by the learner ■ Workshop plan indicating escape routes, location of first aid posts, firefighting equipment, chemical stowage's, fire alarms ■ Records and work activity logs detailing safe working practices applied and company emergency procedures followed
P2 Present yourself in the workplace suitably prepared for the activities to be undertaken	■ Arriving punctually and properly attired to carry out allocated activities ■ Wearing correct PPE, clean overalls, boots, safety glasses, gloves, ear defenders etc. ■ Taking part in fire/emergency drills	
P3 Follow organisational accident and emergency procedures	▲ See above	
P4 Recognise and control hazards in the workplace	■ Attending relevant training	
P5 Use correct manual lifting and carrying techniques	▲ See above	
P5 Apply safe working practices and procedures	■ Carrying out risk assessments and manual handling operations ■ Applying safe working practice throughout work activities	

Notes on next page ▶

Notes

A holistic approach has been taken to provide examples of activities and evidence which may cover performance criteria within and across units. This promotes efficient and effective gathering of evidence. Sources of evidence may include; samples, photographic evidence (where appropriate), video evidence, emails, projects, work-based assignments; reports and related material, job logs, checklists, personal statements, records of professional discussion etc.

Learners should keep a log detailing the steps for any tasks carried out for all work-based activities. Learners should initially be supervised and assisted by a journeyman and only allowed to work unsupervised once deemed competent and only on tasks suitable for his/her experience. Guidance on simulation can be found in the **Assessment Strategy**. Where permitted, simulation should only be undertaken in a minority of situations, for example where there is a potential risk to the learner or others. To be effective, simulation must succeed in recreating the atmosphere, conditions and pressures of the real situation.

Where simulation/replication is required, assessors must obtain agreement from internal verifiers before assessing learners.