Welsh Apprenticeship Pathway

in

Fire and Security

The content of this Pathway has been agreed by the expert Steering Group facilitated by ECA. This is the only Fire and Security Systems Installation Apprenticeship approved for use in Wales that is eligible for Welsh Government funding.

DfES-ApprenticeshipUnit@gov.wales
Gwefan ● website:
www.llyw.cymru
www.gov.wales

FEAD DfES ● Ty Afon
Bedwas Rd ● Bedwas
Cf838WT
More Information can be obtained from:

Contents

LEARNING PROGRAMME CONTENT

The Learning Programme provision shall comprise of three mandatory elements:

- Qualifications
- Essential Skills
- On/off the job training

The total minimum credit value required for the two Level 3 Pathways:

- Fire detection and alarm systems – 51 credits
- Security Systems (Intruder, CCTV and Access Control) – 59 credits

ENTRY REQUIREMENTS

This Apprenticeship is suitable for learners who:

- are aged 16+ currently working in the trade area
- have passed all relevant sector specific entry assessments (where appropriate)
- may have achieved one or more of the following (or recognised equivalent):
  - Foundation in Construction and the Built Environment qualification at Level 2
  - Progression in Building Services Engineering qualification at Level 2
  - Welsh Baccalaureate National Diploma
  - GCSE grade A-C in each of the following:- a communication subject, maths and either a science or technical-based subject (e.g. Design & Technology, Electronics etc)
  - GCSE grade A*-C in WJEC GCSE Built Environment
  - Level 2 'Access to Building Services Engineering' qualification

No individual should be refused access to an initial assessment on the basis of educational qualifications alone.

APPRENTICESHIP PATHWAY LEARNING PROGRAMME(S)

Level 3: Providing Electronic Fire and Security Systems

Qualifications

This Pathway has 2 routes:

- **Fire detection and alarm systems** where the apprentice will be required to:
    - Understand: the relationship of fire detection and alarms to the fire industry; the principles and features of design criteria and related technical information; the methods of surveying new and existing systems; planning and project management for system installation, commissioning and handover; preventative and corrective maintenance of fire detection and alarm systems, emergency systems and components
    - Apply and implement system planning, installation, testing, commissioning and handover. Carry out preventative and corrective maintenance, diagnosis and repair faults, of fire detection and alarm and other emergency systems and components.
- **Security Systems** (Intruder, CCTV and Access Control) where the apprentice will be required to:
    - Understand: the requirement and implementation of security risk assessments; the principles, functions and operation for design criteria; planning and project management for system installation, commissioning and handover; preventative and corrective maintenance of Intruder and hold up alarms, Access Control, video surveillance (CCTV) and other electronic security systems and components.
    - Apply and implement system, planning, installation, testing, commissioning and handover. Carry out preventative and corrective maintenance, diagnosis and repair faults, of Intruder and holdup alarms, Access Control, video surveillance (CCTV) and other electronic security systems and components.

Level 3 NVQ Diploma in Providing Electronic Fire and Security Systems					
Awarding Body	Qualification No.	Credit Value	Total Qualification Time	Competence / Knowledge / Combined	Qualification Assessment Language(s)
EAL	C00/4758/1	51	Fire (510) Security (595)	Combined	English only

Level 3 Diploma in Providing Electronic Fire and Security Systems					
Awarding Body	Qualification No.	Credit Value	Total Qualification Time	Competence / Knowledge / Combined	Qualification Assessment

					Language(s)
EAL	C00/4757/4	102	1020	Knowledge	English only

Please see <u>Annex 1</u> and Annex 2 for the relationship between the combined and knowledge units within the qualifications to determine the Fire or Security route.

Essential Skills Wales (ESW)

Essential Skills Wales qualifications assessment languages are English-Welsh.

Essential Skill	Level	Minimum Credit Value
Communication	2	6
Application of Number	2	6
Digital Literacy	2	6

Note that evidence for Essential Skills can/should be gathered holistically and from other activities so as not to remove learning time from the main trade areas.

On/Off the Job Training (guidance only)

Pathway	Minimum On the Job Training Hours	Minimum Off the Job Training Hours
Fire detection and alarm systems	5000	700
Security Systems (Intruder, CCTV and Access Control)	5000	700

These hours may be different for experienced/older workers depending on their industry experience. The hours cover learning and development undertaken in a range of settings, including in the workplace when under the direction of a relevant trainer, e.g. workplace mentor. Centres and employers should work closely together in determining what proportion of the training will take place within centres and in workplace settings.

OTHER ADDITIONAL REQUIREMENTS

Note that Apprentices following the Fire Pathway **may** wish to undertake the following Units from the **Level 3 Diploma in Providing Electronic Fire and Security Systems** as career development:

- PEFS3/015: Understand and apply design and installation practices and procedures for CCTV security systems
- PEFS3/018: Understand and apply design and installation practices and procedures for access control security systems

JOB ROLES

This Framework specifies the standards and criteria for the Level 3 Apprenticeship in Providing Electronic Fire and Security Systems. Successful achievement of all the components of this Framework will lead to the award of a Level 3 qualification and recognition as a qualified Technician within the sector.

Fire and Security Systems Technicians install, commission and maintain electronic systems in and outside simple and complex premises to protect individuals, homes and properties from risk and danger.

Systems include those to detect intrusion, provide surveillance, monitor and control access to buildings, properties and sites or to detect fire and emergencies.

Electrical safety is an important area of Technician work. On completion of their work the electrical systems must be safe to use. They must adhere to safe working practices without endangering themselves or others.

Skills include interconnection of equipment, programming, verifying performance/fault finding and testing and maintaining. Technicians will carry out planned jobs to install new systems, modify and maintain existing systems as well as respond to call-outs to repair faulty systems where they will utilise their problem solving skills.

They will take a professional approach to customer service skills which include being presentable, tidy and respectful as they can often find themselves working in and outside customers' homes as well as in and outside business premises.

It is important for Fire and Security Systems Technicians to be able to work independently or as part of a team and use their knowledge and skills to ensure systems have been appropriately selected and installed and maintained to professional industry standards, often without any supervision, and done so in a safe, efficient and economical manner to minimise waste.

This Apprenticeship is designed to provide individuals with the opportunity to develop the skills and knowledge that are needed when Providing Electronic Fire and Security Systems
in commercial, industrial and residential buildings including all relevant:

- Technological requirements and changes
- Statutory and Non- Statutory Regulations & Requirements
- Working practices in accordance with Health and Safety requirements
- Inspection, testing and commissioning procedures

On completion of the requirements in this Framework the Apprentice should, as a minimum, have the core skills and core knowledge required to carry out the following in a safe and competent manner:

- Reducing the risks to health and safety at work
- Communicating effectively with others

- Preparing and installing cabling for electronic systems
- Installing electronic equipment and systems
- Testing, commissioning and handover of systems
- Rectifying faults on electronic equipment and systems
- Maintaining electronic equipment and systems

In addition, the Apprentice should also be able to:

- Apply professional judgement and support
- Challenge unsafe behaviours/activities
- Demonstrate innovation through the identification of areas for improvement and suggestion and/or development of innovative solutions
- Identify and manage risks to self and others
- Keep work area clean and tidy
- Manage own time effectively
- Think logically and accordance with the demands of the situation using clear and valid reasoning when making decisions to undertake the work instructions
- Work effectively individually and in a team
- Work in accordance with quality requirements
- Work productively
- Work safely and ensure the safety of others
- Work within own level of competence and know when to seek advice from others

Throughout the Apprenticeship process the Apprentice should, as a minimum, develop and display the behaviours that show them to be consistently:

- Assertive
- Confident
- Dressed appropriately
- Empathetic
- Fair
- Honest
- Proactive
- Productive
- Punctual
- Reliable
- Respectful (in terms of equality, diversity and inclusion)

PROGRESSION

The aim of this Framework is to ensure that the successful learners gain:

- The Skills and Knowledge required by the industry to achieve competence
- Job related skills that will be used in the working environment
- Knowledge and skills aligned to working practices, relevant statutory and non-statutory regulations
- Transferable and Core Skills
- The basis for career progression

When apprentices have completed this Framework, they have a number of progression options to them including:

- Vocational: develop self in the role and seek promotion
- Academic: use the qualifications gained as the basis for further study and entry to Further or Higher Education as appropriate

More specifically, on successful completion of this Apprenticeship in Fire and Security Systems Installation an apprentice will be furnished with the skills and knowledge, and have the qualifications to:

- Apply for the FESS Technician Gold card via ECS at https://www.ecscard.org.uk/
- Apply for registration with the Engineering Council at Engineering Technician (EngTech) level
- Progress to relevant Level 4/5 qualifications e.g. Building Services Engineering Technology & Project Management or Foundation Degree in Engineering
- Progress in their career with further training into such job roles as Technician, Designer, Estimator, Project Manager, Site/Workshop Supervisor/ Manager, Chartered Engineer, Sales Engineer or Commercial Manager.

Further career guidance can be found at:

- https://www.electricalcareers.co.uk/
- https://www.eca.co.uk/
- https://www.the-esp.org.uk/

It is anticipated that successful candidates will progress within the Fire and Security Industry or the larger Electrotechnical industry in qualified positions such as employed or self-employed, supervisors, managers.

Continuous learning will be expected of the qualified candidates in order to maintain awareness of the regulations impacting on the industry and technological changes/advances.

EQUALITY & DIVERSITY

It is important that apprenticeship Pathways are inclusive and can demonstrate an active approach to identifying and removing barriers to entry and progression. Pathways should advance equality of opportunity between persons who share protected characteristics and those persons who do not as identified in the Equality Act 2010.

The protected characteristics identified in the Equality Act are age, disability, gender re-assignment, race, religion or belief, sex, sexual orientation, pregnancy and maternity. Marriage and civil partnerships are also included although only in respect of the requirement to eliminate discrimination in employment.

Training providers and employers MUST also comply with the other duty under the Equality Act 2010 to ensure that applicants are not discriminated against in terms of entry to the industry based upon those nine protected characteristics.

The Fire and Security Industry has not, historically, been a traditional career choice for women. However, women do qualify and work successfully in the industry and this is encouraged.

The sectoral bodies work at local, regional and national levels to identify and address issues around equality and diversity. This work is supported by local/national government, non-governmental bodies/agencies and relevant Unions.

It is a requirement that apprentice recruitment is open and fair to all who meet the selection criteria, regardless of gender, ethnic origin, religion/belief, sexual orientation or disability.

All partners involved in the delivery of the apprenticeship and employers must be committed to a policy of equal opportunities and must have a formal equal opportunities policy and procedure in place.

Employers/providers must be able to demonstrate that there are no overt or covert discriminatory practices in selection and employment. All promotional, selection and training activities must comply with relevant legislation such as the Equality Act 2010.

Providers will monitor equality of opportunity practice and procedures within their own organisation and take positive action when necessary. It is also recommended that employers/providers conduct an exit interview if the apprentice leaves the programme before completion.

EMPLOYMENT RESPONSIBILITIES AND RIGHTS (ERR)

Employment Responsibilities and Rights (ERR) is no longer compulsory. But it is recommended that all apprentices (especially the 16 years -18 year group) receive a company induction programme.

RESPONSIBILITIES

It is the responsibility of the Training Provider and Employer to ensure that the requirements of these pathways are delivered in accordance with the Welsh Government Apprenticeships Guidance.

Further information may be obtained from:

Welsh Government. See **DfES-ApprenticeshipUnit@gov.wales**

Appendix 01: Qualification Details for NVQ Diploma (Competence)

EAL Level 3 NVQ Diploma in Providing Electronic Fire and Security Systems (Ref: 603/3194/3)

This qualification has been designed with **two pathways** to enable the learner to select their discipline. Pathway 1 allows a learner to specialise in electronic systems used in fire detection and alarm systems. Pathway 2 allows a learner to specialise in security systems including intruder alarms, CCTV installation and access control systems.

Qualification Pathway	Ref	GLH	TQT
Fire detection and alarm systems	603/6194/3/A	105	510
Security Systems (Intruder, CCTV and Access Control)	603/6194/3/B	110	595

Ref	Title	Fire	Security
QFES3/001	Reducing the risks to health and safety at work	M	M
QFES3/002	Communicate effectively with others	M	M
QFES3/003	Preparing and installing cabling for electronic systems	M	M
QFES3/004	Installing electronic equipment and systems	M	M
QFES3/005	Testing, commissioning and handover of systems	M	M
QFES3/006	Rectifying faults on electronic equipment and systems	M	M
QFES3/007	Maintenance of electronic equipment and systems	M	M
QFES3/008	Auditing of electronic equipment and systems	O	O
QFES3/009	Protecting from the risk of violence at work	O	O
QFES3/010	Work effectively with other agencies	O	O
QFES3/011	Control contract work for electronic security or fire detection and alarm systems	O	O
QFES3/012	Implement works to meet installation requirements	O	O
QFES3/013	Provide leadership for your team	O	O
QFES3/014	Survey sites to prepare specifications for electronic security or fire detection and alarm systems	O	O
QFES3/015	Preparing quotations for providing electronic security or fire detection and alarm systems	O	O
QFES3/016	Negotiate sales of electronic security or fire detection and alarm systems	O	O
QFES3/017	Manage your own resources and personal development	O	O
QFES3/018	Develop productive working relationships with colleagues and stakeholders	O	O
QFES3/019	Plan the installation of electronic security or fire detection and alarm systems	O	O

Appendix 02: Qualification Details for Diploma (Knowledge)

EAL Level 3 Diploma in Providing Electronic Fire and Security Systems

This qualification has been designed with two pathways to enable the learner to select their discipline. Pathway 1 allows a learner to specialise in electronic systems used in fire detection and alarm systems. Pathway 2 allows a learner to specialise in security systems such as Intruder alarms, CCTV installation and access control systems. Learners will also cover topics including health and safety, planning and overseeing electrical work, scientific principles for systems and networking and signalling for systems.

Ref	Title	Fire	Security
PEFS3/001	Understand health, safety and environmental considerations	M	M
PEFS3/002	Electronic scientific principles for electronic security or fire detection and alarm systems	M	M
PEFS3/003	Understand how to plan and oversee electrical work activities	M	M
PEFS3/004	Introduction to networking and signalling principles for electronic security or fire detection and alarm systems	M	M
PEFS3/005	Understand the engineering principles in the design and installation of a fire detection and alarm systems	M	
PEFS3/006	Apply installation practices and procedures for fire detection and alarm systems	M	
PEFS3/007	Understand inspection, testing, commissioning and handover for fire detection and alarm systems	M	
PEFS3/008	Apply inspection, testing, commissioning and handover for fire detection and alarm systems	M	
PEFS3/009	Understand fault diagnosis, rectification and maintenance and auditing for fire detection and alarm systems	M	
PEFS3/010	Apply fault diagnosis, rectification maintenance and auditing for fire detection and alarm systems	M	
PEFS3/011	Demonstrate full installation, testing, commissioning, maintenance and handover of an electronic fire detection and alarm system	M	
PEFS3/012	Understand and apply design and installation practices and procedures for intruder security systems		M
PEFS3/013	Understand installation practices and procedures for intruder security systems		M
PEFS3/014	Understand and apply inspection, takeover, testing, commissioning, handover and faults for intruder security systems		M
PEFS3/015	Understand and apply design and installation practices and procedures for CCTV security systems	O	M
PEFS3/016	Understand installation practices and procedures for CCTV security systems		M
PEFS3/017	Understand and apply inspection, takeover, testing, commissioning, handover and faults for CCTV security systems		M
PEFS3/018	Understand and apply design and installation practices and procedures for access control security systems	O	M
PEFS3/019	Understand installation practices and procedures for access control security systems		M
PEFS3/020	Understand and apply inspection installation, testing, commissioning, handover and faults for access control security systems		M
PEFS3/021	Demonstrate full installation, testing, commissioning, maintenance and handover of an electronic security system		M

M=Mandatory component of the qualification (i.e.it must be taken and completed)
O=Optional component of the qualification (to reflect specialism)