apprenticeship
FRAMEWORK

Higher Apprenticeship in Life Science and Related Science Industries Level 4 (Wales)

IMPORTANT NOTIFICATION FOR ALL APPRENTICESHIP STARTS FROM 14 OCTOBER 2016

Modifications to SASW came into effect on 14 October 2016. These changes relate to the **Essential Skills** and **Employer Rights and Responsibilities** requirements of a framework and they **ONLY** apply to **new Apprenticeship starts on, or after, 14th October**. Apprenticeship starts before this date must continue to meet the 2013 SASW requirements for Essential Skills and Employer Rights and Responsibilities.

For more details of the changes and how they will affect new apprenticeship starts, please read the following preface page to the framework document. NB: Please check the "Revising a Framework" section for information on any additional changes that may have been made to this framework.

Latest framework version?

For any previous versions of this framework: www.acwcerts.co.uk/framework_library

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Higher Apprenticeship in Life Science and Related Science Industries Level 4 (Wales)

Contents

Framework information 3
Contact information 5
Revising a framework 6
Purpose of this framework 8
Entry conditions for this framework 14
Level 4, Pathway 1: Life Science Technician 17
Level 4, Pathway 2: Chemical Science Technician 26
Level 4, Pathway 3: Food Science Technician 35
Level 4, Pathway 4: Process Technician 44
How equality and diversity will be met 54
On and off the job training 56
Wider key skills assessment and recognition 60

Framework information

Information on the Issuing Authority for this framework:

Cogent

The Apprenticeship sector for occupations in chemical manufacturing, nuclear science, oil and gas extraction (also includes process technology, bioscience, polymer and sign making).

Issue number: 2	**This framework includes:**
Framework ID: FR04061	Level 2 ☐ Level 3 ☐ Level 4-7 ☒
Date this framework is to be reviewed by: 08/01/2020	**This framework is for use in: Wales**

Short description

This Higher Apprenticeship framework provides the skills, knowledge and competence required to become a life sciences technician, chemical science technician, food science technician or process science technician in a range of generic science-based roles:

Pathways at Level 4:

Life Science Technician

Chemical Science Technician

Food Science Technician

Process Development Technician

Technician is used as a generic description, actual job titles may vary from company to company.

The Higher Apprenticeship programme combines skills and knowledge with employment in a life sciences, chemical science, food science or process science role, meaning that apprentices

are paid throughout the programme.

Apprentices can apply and improve their skills in the workplace to complement the instructor-led learning.

There are four pathways at level 4 contained in this Higher Apprenticeship Framework.

Life Science Technician

Chemical Science Technician

Food Science Technician

Process Development Technician

This Higher Apprenticeship takes 24 to 36 months to complete.

Contact information

Proposer of this framework

Details of who proposed the framework

Developer of this framework	
Name:	Ian Lockhart
Organisation:	Cogent Skills
Organisation Type:	Sector Skills Council
Job Title:	Standards Manager
Phone:	01925 515223
Email:	ian.lockhart@cogentskills.com
Postal address:	Cogen Skills Unit 5 Mandarin Court Centre Park Warrington WA1 1GG
Website:	www.cogentskills.com

Issuing Authority's contact details	
Issued by:	Cogent
Issuer contact name:	James Murdock
Issuer contact phone:	01925 515200
Issuer Email:	apprenticeships@cogentskills.com

Contact Details

Who is making this revision	Ian Lockhart
Your organisation	Cogent Skills
Your email address:	ian.lockhart@cogentskills.com

Revising a framework

Why this framework is being revised

April 2017

The following revisions are being made to this framework:
• The addition of a new knowledge qualification.
• The removal of the requirements to achieve the wider Key Skills qualifications.
• Include the new Essential Skills Qualifications.

For apprenticeship starts on, or after the 14 October 2016:
• To include the new range of proxy qualifications for Essential Skills.
• To remove the mandatory requirements to complete Employee Rights and Responsibilities (ERR).

Summary of changes made to this framework

April 2017

• The requirements to achieve the Wider Keys have been removed.
• The addition of the Foundation Degree in Animal Science knowledge qualification.
• To include the new range of proxy qualifications for Essential Skills that are mentioned in the front of this document.
• Remove the mandatory requirements for Employee Rights and Responsibilities (ERR).

Please see the Employee Rights and Responsibilities (ERR) sections of this document.

Qualifications removed

None

Qualifications added

April 2017

Foundation Degree in Animal Science University of Wales Trinity Saint David

Qualifications that have been extended

None

Purpose of this framework

Summary of the purpose of the framework

This Higher Apprenticeship programme is designed for new entrants to roles that use life sciences, chemical science, food science, process development and to provide progression and re-skilling routes for existing laboratory, scientific and technical employees.

Apprentices can work in four distinct areas of science and technology that are found across many different industries:

Life Science

Chemical Science

Food Science

Process Development

The nature of the laboratory, scientific and technical job roles will vary according to the needs of the employer, but the apprentices could work in areas such as production, research and development, scientific analysis in manufacturing, health, environmental, forensic science and contract services. The industries where knowledge and skills in these areas of science are required include:

Pharmaceuticals (human and animal)

Medical biotechnology

Medical biotechnology

Clinical research & trials

Life sciences

Chemicals

Petro-chemicals

Nuclear

Polymer

Animal and marine science

Food and drink (human and animal)

Environmental testing (air, water and soil)

Water treatment

Paints and coatings

Cosmetics

Personal care products

Household products

Oil and gas

Ceramics

Forensic science

Waste disposal

Ecological/environmental science

Metallurgy science

Food science and hygiene

Agriculture science

Mining, quarrying and extractives

Building and construction support services

Public and private health care

Education

NHS

There is no standard title for job roles and the range of activities varies widely depending on the organisation and the nature of its business. To illustrate this some examples of job roles in different industries are given below.

Chemical manufacturing:

Finished Product Analyst - Analysis of finished product and environmental factors either routinely or as a control check where process technicians carry out role.

Development Analyst - Analysis of development products.
Process Technician - Analysis of finished product on the manufacturing line.

Polymer manufacturing:

Colourist - Analysis of formulation of product during production to ensure conformance to recipe and colour.
Product Release - Analysis of finished product for formulation and adherence to customer colour requirements.
Trainee Patrol Inspector - Analysis of finished product during manufacture.

Pharmaceuticals:

Quality Control Technician/Analyst - Quality control checks on incoming materials for production and outgoing product from production.
Laboratory Analyst - Laboratory testing and analysis. Ensuring tests are completed within agreed timelines.
High Through-put Experimental Scientist -Utilising novel technologies, provide solubility, salt and reaction screens to support drug development.
Crystallisation Engineer – Provide detailed studies to support the development of crystallisations.
Process Safety Scientist – Rigorous testing of pharmaceutical intermediates and drug products to ensure processes are safely transferred to large scale manufacturing facilities.

Life Sciences:

Laboratory Technician - Quality control checks on incoming materials for production and outgoing product from production.
Tissue Culture Laboratory Technician - To assist in the implementation of quality control tests for medium and media components.

Cosmetics:

Quality Control Technician/Analyst - Quality control checks on incoming materials for production and outgoing product from production.

Food and Drink (animal and human):

Nutrient Analysis - The role is to carry out the process of determining the nutritional content of foods and food products. The process can be performed through a variety of certified methods.

Animal Health:

Animal Technologist - Animal Technologists are responsible for the care and welfare of laboratory animals that are used for scientific research. Also including obtaining samples and measurements from the animals and operating computerised scientific and electronic

equipment.

Animal Science:

Animal Breeding Technician - responsible for the care and welfare of breeding animals and their young. Their daily responsibilities include carrying out regular health checks on the animals in their care, handling the animals correctly and monitoring them to ensure that they are comfortable, in good condition and behaving as expected, maintaining and ensuring high standards of cleanliness and hygiene, throughout the animal facility, selection of breeding stock, supervision of mating, gestation and parturition, care of young, sexing and weaning.

Veterinary Pathologist - work to help determine the cause of death and disease in animals. Their work includes carrying out post-mortem examinations of dead animals and the examination and testing of blood, urine and tissue samples from living animals.

Entomologist - because of its diversity, entomology provides many choices and opportunities for those interested in nature based and biological sciences. Some entomologists work out in the field collecting and recording, others work in the laboratory or classroom, and others find a niche in regulatory entomology or international activities.

Livestock/Equine Breeding Technician - work to facilitate and improve reproduction in livestock/equine. This may include: IVF, embryo transfer and artificial insemination.

Plant research:

Plant Research Technician - Working in food production, plants for climate change (drought resistant type plants/resistance to pest and disease/grass types for sports turf services/plant production).

Agronomist - Agronomists offer an advisory service and specialist support to Farmers. They advise and work with Farmers to make sure crop production on arable farms is performing well. This may involve: identifying and providing solutions to overcome technical problems such as diseases in crops.

Plant Breeder - Their work includes plant investigation, cultivar development leading to new seed production.

Water Treatment:

Senior Technician - Sampling and testing of product to assure compliance with specification. Monitoring of product quality throughout the production process and making changes to blends and recipes if needed to maintain the quality of the finished product.

Hospital laboratories:

Laboratory Technician - Setting up experiments or investigations, collecting samples, analysing

samples, recording and presenting data.

Forensic Science:

Laboratory Technician - Setting up experiments or investigations, collecting samples, analysing samples, recording and presenting data.

Paper manufacture:

Quality Technician - Sampling and testing of product to assure compliance with specification.

Quarrying and mining:

Senior Technician - Sampling and testing of product to assure compliance with specification. Making changes to blends and recipes if needed to maintain the quality of the finished product.

Paint and Coatings manufacturing:

Colour Match Technologist (development) - Formulating and testing of new coatings/colours within the laboratory.

Colour Match Technologist (production) - Testing of production batches against original standards and sampling to ensure consistency and quality of finished product.

Building products manufacture:

Senior Technician - Sampling and testing of product to assure compliance with specification. Monitoring of product quality throughout the production process. Making changes to blends and recipes if needed to maintain the quality of the finished product.

What is included in this Apprenticeship?

The apprenticeship is made up of qualifications and industrial experience across 4 pathways that will provide apprentices with the skills and knowledge required to become competent in their chosen job role. The framework includes a balance of content in technical, business and interpersonal areas, designed to ensure apprentices have an appropriate set of skills to operate in today's life sciences, chemical science, food science, process development job roles. In addition the apprenticeship offers the opportunity to gain professional status as a Registered Science Technician or Engineering Technician.

Why do we need a Higher Apprenticeship in Life Science and Related Science Industries?

The pace of technological development in the modern workplace is creating an urgent and growing demand for higher levels of technical skills and professionalism. Laboratory, scientific and technical professionals work in occupations defined as associate professional and skilled trades in which the application of scientific and or technological skills and knowledge is central to the job holder's role.

Aims and objectives of this framework (Wales)

Aim:

To provide a skilled technical workforce for the industries and services that use life sciences, chemical science, food science and process development that will enable them to compete in a global market.

The objectives of this framework are:

To provide the skilled technicians and science professionals to meet future demand to support growth in the UK in the 21st Century.

1. To provide a structured training framework that will provide the life sciences, chemical science, food science, process/packaging development or healthcare science skills needed to operate within a scientific environment.
2. To provide a development framework for existing laboratory, scientific and technical employees in a wide range of industries and services to build their current skills and knowledge to enable them to meet the future challenges of new technologies and changing scientific procedures.
3. To provide progression opportunities for apprentices within industries and services that use life sciences, chemical science, food science, process/product development or healthcare science; and employment in other sectors as well as for those wishing to engage in further study in Higher Education.
4. To attract new talent into the industries and services that use life sciences, chemical science, food science, process/packaging development or healthcare science from a range of backgrounds, in order to meet industries' and services' requirements.

Entry conditions for this framework

The Higher Apprenticeship is open to all people employed and who can demonstrate that they have the aptitude and potential to achieve the relevant Foundation Degree, HND Diploma or HNC Diploma in a technical discipline. Whilst the framework does not prescribe the entry qualifications for the Higher Apprenticeship, as a general guide to the level of the Foundation Degree, HND Diploma or HNC Diploma the applicants should be:

- Progressing from the Advanced Level Apprenticeship in a related scientific discipline or
- At the start of their Apprenticeship have achieved at least 200 points at A/AS level including DD at GCE A2 for two Science subjects, including the science subject which is the main component of the Foundation Degree, HND Diploma or HNC Diploma; and at least 5 GCSE's including Maths, English and 3 other subjects at C or above. In some cases, employers may wish to recruit apprentices who have the ability to eventually undertake a Level 6 apprenticeship, who would start initially at Level 4. Under these circumstances, candidates would need to have appropriate A levels or equivalent that would allow them entry to Higher Education at Level 6. Learners who have completed the Welsh Baccalaureate may have completed units or short courses which will provide underpinning knowledge towards the Higher Apprenticeship.

For the Higher Apprenticeship there are no minimum entry or previous experience requirements. The programme shall allow equal access to all applicants. Due to the competition for places the following skills and attributes relevant to working within the industries and services that use chemical science, life sciences, food science, process/product development or healthcare science may be considered as part of the application process;

- Motivation to succeed within the industry.
- Willingness to adhere to employer/training provider terms and conditions of employment.
- Demonstrable commitment and awareness of the demands of the Higher Apprenticeship.
- Willingness to learn and apply that learning in the workplace.
- Ability to demonstrate that they have the potential to complete the qualifications which are part of the Higher Apprenticeship.
- Willingness to work with due regard to Health and Safety of self and others.
- Willingness to communicate effectively with a range of people.

All Higher Apprenticeship applicants should be aware of the varied working conditions that may include;

- Working with high hazard chemicals
- Exposure to bio-hazards
- Working with members of the public

- Working with a number of different departments
- Working as part of a team or unsupervised
- Working in a high security environment
- Wearing personal protective clothing.

Level 4

Title for this framework at level 4

Science Technician

Pathways for the framework at level 4:	
Pathway 1:	Life Science Technician
Pathway 2:	Chemical Science Technician
Pathway 3:	Food Science Technician
Pathway 4:	Process Technician

Level 4, Pathway 1: Life Science Technician

Description of this pathway

Life Science and Related Science Industries (Life Science Technician)

Total minimum credit value for this pathway: 192 Credits:

- 54 Credits for Competence
- 120 Credits for Knowledge
- 18 Credits for Essential Skills Communication, Application of Number and Digital Literacy

Entry requirements for this pathway in addition to the framework entry requirements

None

Job title(s)	Job role(s)
Life Science Technician	Apply knowledge of problem solving, analysis and high level laboratory skills in a broad range of well-defined complex and non-routine work activities in a specific area with a fair degree of personal responsibility and autonomy in a science environment.

Qualifications

Competence qualifications available to this pathway

C1 – Level 4 NVQ Diploma in Laboratory and Associated Technical Activities (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
C1a	501/2291/5	PAAVQSET	54	308	N/A
C1b	600/1733/8	Pearson Education	54	308	N/A

Knowledge qualifications available to this pathway

K1 – Higher National Certificate in Natural Sciences					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K1a	HNCP5P01	University of South Wales	120	480	N/A

K2 – Pearson BTEC Level 4 HNC Diploma in Applied Biology (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K2a	500/8248/6	Pearson Education	120	480	N/A

KX – X					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K3a	500/8246/2	Pearson Education	245	980	N/A

K4 – Foundation Degree in Animal Science					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K4a	C300	University of Wales Trinity Saint David	240	2400	N/A

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1, K2, K3, K4 – The Higher National Certificate/ Diploma/Foundation Degree 120/245/240 credits will provide the underpinning knowledge for the competence qualification C1 – Level 4 NVQ Diploma in Laboratory and Associated Technical Activities (QCF) 54 Credits.

Competence: Level 4 NVQ Diploma in Laboratory and Associated Technical Activities (QCF). Learners must achieve a minimum of 54 Credits.

Knowledge: The Higher National Certificates. Learners must achieve a minimum of 120 Credits or 245 Credits
If undertaking the Higher National Diploma in Applied Biology or a minimum of 240 credits must be achieved for the Foundation Degree in Animal Science

The credit values and guided learning hours quoted in the above tables are the minimum for the qualification. These credit values and guided learning hours may vary according to specific pathways/ options taken within qualifications.

Essential Skills

An apprenticeship framework must specify as a Welsh certificate requirement the expected achievement levels of Essential Skills in Communication and the Application of Number.

Where Essential Skills qualifications are specified in an apprenticeship framework, the apprenticeship framework must specify the acceptance of a recognised proxy qualification for Communication and Application of Number.

Communication

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Communication achievement above the minimum SASW requirement? YES ☐ NO ☒

If YES, please state the grade/level required for English and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

Application of Number

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Application of Number achievement above the minimum SASW requirement? YES ☐ NO ☒

If YES, please state the grade/level required for Maths and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

Inclusion of Digital Literacy (ICT)

Digital Literacy (ICT) is an **optional** framework requirement.

Is Digital Literacy a requirement in this framework? **YES** ☒ **NO** ☐

Digital Literacy (ICT)

Please note that there are currently no acceptable proxy qualifications for Digital Literacy (ICT).

For the current **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Digital Literacy (ICT) achievement above the minimum SASW requirement? YES ☐ **NO** ☒

If YES, please state the grade/level required for **Digital Literacy (**ICT) and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

Progression routes into and from this pathway

Progression into this pathway:

There are no pre-defined routes of entry into the Higher Apprenticeship; however, new entrants to the industry may be looking to progress from the following areas:

- Completion of an Apprenticeship in Laboratory and Associated Technical Activities or related science discipline.
- Work based qualifications such as NVQs/ SVQs or vocationally related qualifications in a subject related to Chemical Science (Examples may include: BTEC's, City & Guilds, PAA/VQ-SET Diplomas/ Certificates/ Awards in Science).
- 'A' Levels in Science, Maths or Engineering also provide a strong platform for progression on to the framework.
- Learners who have completed the Welsh Baccalaureate may have completed units or short courses which will provide underpinning knowledge towards the Higher Apprenticeship.
- Previous experience in the industries and services that use life sciences, chemical science and healthcare science or a related science discipline can also be an appropriate route of entry.

Progression from this pathway:

Following completion of this Higher Apprenticeship there are several options open to the successful candidate who wishes to continue their development in order to progress their career. There are opportunities to continue to undertake further vocational training or academic qualifications. These may include (but are not exclusive to) the following:

Career Progression

- Higher Apprenticeship for Life Sciences & Chemical Science Professionals at level 5
- Undergraduate Degrees in Chemical Science or a related discipline.
- Diplomas in Science or a related discipline.
- Progression to an honours degree through part-time study with work-based learning.

Continuing Professional Development

- Develop their career in coaching through Assessor and Verifier Awards.
- Qualifications in a related area, including (but not limited to) Health & Safety, Training &
- Development, Business Improvement Techniques and Supervisory Management.

- Membership of a professional institution at Registered Science Technician level (Further information available at www.professionalregisters.org)

UCAS points for this pathway:

N/A

Employee rights and responsibilities

Please note that for Apprenticeship starts from 14/10/2016 onwards ERR is no longer a **mandatory** requirement in all frameworks.

However, it may still be included in some frameworks and where it is not explicitly stated that ERR is not a requirement then confirmation of an Apprentice's ERR achievement will still remain a requirement for Apprenticeship certification purposes.

Is ERR a requirement for this framework? **YES** ☒ **NO** ☐

Delivery and assessment

This Employee Rights and Responsibilities (ERR) is no longer compulsory. Cogent recommend that all apprentices undertake Employee Rights and Responsibilities (ERR) as part of their induction.

The Cogent Employee's Rights and Responsibilities (ERR) Workbook and Assessment Document has been designed to assist employers and training providers and should be used to deliver this element of the Apprenticeship Framework.

The content is as follows: -
1. Statutory rights and responsibilities under Employment Law.
2. Procedures and documentation that affect the relationship between employee and employer.
3. Sources of information and advice on employment rights and responsibilities.
4. The role played by an Apprentice's occupation in the organisation and industry.
5. Career pathways open to an Apprentice.
6. The types of representative bodies relevant to the industry and organisation and their main roles and responsibilities.
7. Where and how to get advice on the industry, occupation, training and careers.
8. Organisational principles and codes of practice.
9. Issues of public concern that affect the organisation and industry.

To obtain a copy of the workbook and assessment document, please contact ian.lockhart@cogentskills.com

Claims for Apprenticeship Completion Certificates in Wales are managed through an online system called Apprenticeship Certificates Wales (ACW). http://acwcerts.co.uk/. This will specify the evidence required for claiming a completion certificate.

Level 4, Pathway 2: Chemical Science Technician

Description of this pathway

Life Science and Related Science Industries (Chemical Science Technician)

Total minimum credit value for this pathway: 192 Credits

- 54 Credits for Competence
- 120 Credits for Knowledge
- 18 Credits for Essential Skills Communication, Application of Number and Digital Literacy

Entry requirements for this pathway in addition to the framework entry requirements

N/A

Job title(s)	Job role(s)
Chemical Science Technician	Apply knowledge of problem solving, analysis and high level laboratory skills in a broad range of well-defined complex and non-routine work activities in a specific area with a fair degree of personal responsibility and autonomy in a science environment.

Qualifications

Competence qualifications available to this pathway

C1 – Level 4 NVQ Diploma in Laboratory and Associated Technical Activities (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/2291/5	PAAVQSET	54	308	N/A
C1b	600/1733/8	Pearson Education	54	308	N/A

Knowledge qualifications available to this pathway

K1 – Higher National Certificate in Natural Sciences

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	HNCP5P01	University of South Wales	120	480	N/A

K2 – Pearson BTEC Level 4 HNC Diploma in Applied Chemistry (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/8244/9	Pearson Education	120	480	N/A

K3 – Pearson BTEC Level 5 HND Diploma in Applied Chemistry (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	500/8247/4	Pearson Education	245	980	N/A

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1, K2, K3 – The Higher National Certificate/ Diploma 120/245 credits will provide the underpinning knowledge for the competence qualification C1 – Level 4 NVQ Diploma in Laboratory and Associated Technical Activities (QCF) 54 Credits.

Competence: Level 4 NVQ Diploma in Laboratory and Associated Technical Activities (QCF). Learners must achieve a minimum of 54 Credits.

Knowledge: The Higher National Certificates. Learners must achieve a minimum of 120 Credits (or 245 Credits
if undertaking the Higher National Diploma in Applied Chemistry).

The credit values and guided learning hours quoted in the above tables are the minimum for the qualification. These credit values and guided learning hours may vary according to specific pathways/ options taken within qualifications.

Essential Skills

An apprenticeship framework must specify as a Welsh certificate requirement the expected achievement levels of Essential Skills in Communication and the Application of Number.

Where Essential Skills qualifications are specified in an apprenticeship framework, the apprenticeship framework must specify the acceptance of a recognised proxy qualification for Communication and Application of Number.

Communication

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Communication achievement above the minimum SASW requirement? YES ☐ NO ☒

If YES, please state the grade/level required for English and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

Application of Number

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Application of Number achievement above the minimum SASW requirement? YES ☐ NO ☒

If YES, please state the grade/level required for Maths and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

Inclusion of Digital Literacy (ICT)

Digital Literacy (ICT) is an **optional** framework requirement.

Is Digital Literacy a requirement in this framework? **YES** ☒ **NO** ☐

Digital Literacy (ICT)

Please note that there are currently no acceptable proxy qualifications for Digital Literacy (ICT).

For the current **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Digital Literacy (ICT) achievement above the minimum SASW requirement? YES ☐ **NO** ☒

If YES, please state the grade/level required for **Digital Literacy (**ICT) and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

Progression routes into and from this pathway

Progression into this pathway:

There are no pre-defined routes of entry into the Higher Apprenticeship; however, new entrants to the industry may be looking to progress from the following areas:

- Completion of an Apprenticeship in Laboratory and Associated Technical Activities or related science discipline.
- Work based qualifications such as NVQs/ SVQs or vocationally related qualifications in a subject related to Chemical Science (Examples may include: BTEC's, City & Guilds, PAA/VQ-SET Diplomas/ Certificates/ Awards in Science).
- 'A' Levels in Science, Maths or Engineering also provide a strong platform for progression on to the framework.
- Learners who have completed the Welsh Baccalaureate may have completed units or short courses which will provide underpinning knowledge towards the Higher Apprenticeship.
- Previous experience in the industries and services that use life sciences, chemical science and healthcare science or a related science discipline can also be an appropriate route of entry.

Progression from this pathway:

Following completion of this Higher Apprenticeship there are several options open to the successful candidate who wishes to continue their development in order to progress their career. There are opportunities to continue to undertake further vocational training or academic qualifications. These may include (but are not exclusive to) the following:

Career Progression

- Higher Apprenticeship for Life Sciences & Chemical Science Professionals at level 5
- Undergraduate Degrees in Chemical Science or a related discipline.
- Diplomas in Science or a related discipline.
- Progression to an honours degree through part-time study with work-based learning.

Continuing Professional Development

- Develop their career in coaching through Assessor and Verifier Awards.
- Qualifications in a related area, including (but not limited to) Health & Safety, Training &

Development, Business Improvement Techniques and Supervisory Management.
- Membership of a professional institution at Registered Science Technician level (Further information available at www.professionalregisters.org)

UCAS points for this pathway:

N/A

Employee rights and responsibilities

Please note that for Apprenticeship starts from 14/10/2016 onwards ERR is no longer a **mandatory** requirement in all frameworks.

However, it may still be included in some frameworks and where it is not explicitly stated that ERR is not a requirement then confirmation of an Apprentice's ERR achievement will still remain a requirement for Apprenticeship certification purposes.

Is ERR a requirement for this framework? **YES** ☒ **NO** ☐

Delivery and assessment

This Employee Rights and Responsibilities (ERR) is no longer compulsory. Cogent recommend that all apprentices undertake Employee Rights and Responsibilities (ERR) as part of their induction.

The Cogent Employee's Rights and Responsibilities (ERR) Workbook and Assessment Document has been designed to assist employers and training providers and should be used to deliver this element of the Apprenticeship Framework.

The content is as follows: -
1. Statutory rights and responsibilities under Employment Law.
2. Procedures and documentation that affect the relationship between employee and employer.
3. Sources of information and advice on employment rights and responsibilities.
4. The role played by an Apprentice's occupation in the organisation and industry.
5. Career pathways open to an Apprentice.
6. The types of representative bodies relevant to the industry and organisation and their main roles and responsibilities.
7. Where and how to get advice on the industry, occupation, training and careers.
8. Organisational principles and codes of practice.

9. Issues of public concern that affect the organisation and industry.
It is essential that the Apprentice can demonstrate competence in ERR and, as a result, is required to provide documentary evidence confirming their achievements. Examples of how the evidence can be gathered by individuals include;

- completing a company induction,
- attending relevant taught off-the-job training sessions
- on-the-job assessment.

To obtain a copy of the workbook and assessment document, please contact ian.lockhart@cogentskills.com

Claims for Apprenticeship Completion Certificates in Wales are managed through an online system called Apprenticeship Certificates Wales (ACW). http://acwcerts.co.uk/. This will specify the evidence required for claiming a completion certificate.

Level 4, Pathway 3: Food Science Technician

Description of this pathway

Life Science and Related Science Industries (Food Science Technician)

Total minimum credit value for this pathway: 192 Credits:

- 54 Credits for Competence
- 120 Credits for Knowledge
- 18 Credits for Essential Skills Communication, Application of Number and Digital Literacy

Entry requirements for this pathway in addition to the framework entry requirements

N/A

Job title(s)	Job role(s)
Food Science Technician	Apply knowledge of problem solving, analysis and high level laboratory skills in a broad range of well-defined complex and non-routine work activities in a specific area with a fair degree of personal responsibility and autonomy in a science environment.

Qualifications

Competence qualifications available to this pathway

C1 – Level 4 NVQ Diploma in Laboratory and Associated Technical Activities (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
C1a	501/2291/5	PAA\VQ-SET	54	308	N/A
C1b	600/1733/8	Pearson Education	54	308	N/A

Knowledge qualifications available to this pathway

K1 – Higher National Certificate in Natural Sciences					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K1a	HNCP5P01	University of South Wales	120	480	N/A

2

K2 – Pearson BTEC Level 4 HNC Diploma in Applied Biology (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K2a	500/8248/6	Pearson Education	120	480	N/A

K3 – Pearson BTEC Level 5 HND Diploma in Applied Biology (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K3a	500/8246/2	Pearson Education	245	980	N/A

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1, K2, K3 – The Higher National Certificate/ Diploma 120/245 credits will provide the underpinning knowledge for the competence qualification C1 – Level 4 NVQ Diploma in Laboratory and Associated Technical Activities (QCF) 54 Credits.

Competence: Level 4 NVQ Diploma in Laboratory and Associated Technical Activities (QCF). Learners must achieve a minimum of 54 Credits.

Knowledge: The Higher National Certificates. Learners must achieve a minimum of 120 Credits or 245 Credits
If undertaking the Higher National Diploma in Applied Biology.

The credit values and guided learning hours quoted in the above tables are the minimum for the qualification. These credit values and guided learning hours may vary according to specific pathways/ options taken within qualifications.

Essential Skills

An apprenticeship framework must specify as a Welsh certificate requirement the expected achievement levels of Essential Skills in Communication and the Application of Number.

Where Essential Skills qualifications are specified in an apprenticeship framework, the apprenticeship framework must specify the acceptance of a recognised proxy qualification for Communication and Application of Number.

Communication

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Communication achievement above the minimum SASW requirement? YES ☐ NO ☒

If YES, please state the grade/level required for English and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

Application of Number

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Application of Number achievement above the minimum SASW requirement? YES ☐ NO ☒

If YES, please state the grade/level required for Maths and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

Inclusion of Digital Literacy (ICT)

Digital Literacy (ICT) is an **optional** framework requirement.

Is Digital Literacy a requirement in this framework? **YES** ☒ **NO** ☐

Digital Literacy (ICT)

Please note that there are currently no acceptable proxy qualifications for Digital Literacy (ICT).

For the current **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Digital Literacy (ICT) achievement above the minimum SASW requirement? YES ☐ **NO** ☒

If YES, please state the grade/level required for **Digital Literacy (**ICT) and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

Progression routes into and from this pathway

Progression into this pathway:

There are no pre-defined routes of entry into the Higher Apprenticeship; however, new entrants to the industry may be looking to progress from the following areas:

- Completion of an Apprenticeship in Laboratory and Associated Technical Activities or related science discipline.
- Work based qualifications such as NVQs/ SVQs or vocationally related qualifications in a subject related to Chemical Science (Examples may include: BTEC's, City & Guilds, PAA/VQ-SET Diplomas/ Certificates/ Awards in Science).
- 'A' Levels in Science, Maths or Engineering also provide a strong platform for progression on to the framework.
- Learners who have completed the Welsh Baccalaureate may have completed units or short courses which will provide underpinning knowledge towards the Higher Apprenticeship.
- Previous experience in the industries and services that use life sciences, chemical science and healthcare science or a related science discipline can also be an appropriate route of entry.

Progression from this pathway:

Following completion of this Higher Apprenticeship there are several options open to the successful candidate who wishes to continue their development in order to progress their career. There are opportunities to continue to undertake further vocational training or academic qualifications. These may include (but are not exclusive to) the following:

Career Progression

- Higher Apprenticeship for Life Sciences & Chemical Science Professionals at level 5
- Undergraduate Degrees in Chemical Science or a related discipline. Diplomas in Science or a related discipline.
- Progression to an honours degree through part-time study with work-based learning.

Continuing Professional Development

- Develop their career in coaching through Assessor and Verifier Awards.
- Qualifications in a related area, including (but not limited to) Health & Safety, Training &
- Development, Business Improvement Techniques and Supervisory Management.
- Membership of a professional institution at Registered Science Technician level (Further information available at www.professionalregisters.org)

UCAS points for this pathway:

N/A

Employee rights and responsibilities

Please note that for Apprenticeship starts from 14/10/2016 onwards ERR is no longer a **mandatory** requirement in all frameworks.

However, it may still be included in some frameworks and where it is not explicitly stated that ERR is not a requirement then confirmation of an Apprentice's ERR achievement will still remain a requirement for Apprenticeship certification purposes.

Is ERR a requirement for this framework? **YES** ☒ **NO** ☐

Delivery and assessment

This Employee Rights and Responsibilities (ERR) is no longer compulsory. Cogent recommend that all apprentices undertake Employee Rights and Responsibilities (ERR) as part of their induction.

The Cogent Employee's Rights and Responsibilities (ERR) Workbook and Assessment Document has been designed to assist employers and training providers and should be used to deliver this element of the Apprenticeship Framework.

The content is as follows: -
1. Statutory rights and responsibilities under Employment Law.
2. Procedures and documentation that affect the relationship between employee and employer.
3. Sources of information and advice on employment rights and responsibilities.
4. The role played by an Apprentice's occupation in the organisation and industry.

5. Career pathways open to an Apprentice.
6. The types of representative bodies relevant to the industry and organisation and their main roles and responsibilities.
7. Where and how to get advice on the industry, occupation, training and careers.
8. Organisational principles and codes of practice.
9. Issues of public concern that affect the organisation and industry.

It is essential that the Apprentice can demonstrate competence in ERR and, as a result, is required to provide documentary evidence confirming their achievements. Examples of how the evidence can be gathered by individuals include;

- completing a company induction,
- attending relevant taught off-the-job training sessions
- on-the-job assessment.

To obtain a copy of the workbook and assessment document, please contact ian.lockhart@cogentskills.com

Claims for Apprenticeship Completion Certificates in Wales are managed through an online system called Apprenticeship Certificates Wales (ACW). http://acwcerts.co.uk/. This will specify the evidence required for claiming a completion certificate.

Level 4, Pathway 4: Process Technician

Description of this pathway

Life Science and Related Science Industries (Process Technician)

Total minimum credit value for this pathway: 192 Credits:

- 54 Credits for Competence
- 120 Credits for Knowledge
- 18 Credits for Essential Skills Communication, Application of Number and Digital Literacy

Entry requirements for this pathway in addition to the framework entry requirements

N/A

Job title(s)	Job role(s)
Process Technician	Apply knowledge of problem solving, analysis and high level laboratory skills in a broad range of well-defined complex and non-routine work activities in a specific area with a fair degree of personal responsibility and autonomy in a process environment.

Qualifications

Competence qualifications available to this pathway

C1 – Level 4 NVQ Diploma in Processing Industries Operations (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	500/7760/0	PAA\VQSET	34	378	N/A

Knowledge qualifications available to this pathway

K1 – Edexcel BTEC Level 4 HNC Diploma in Operations Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/8960/2	Pearson Education	120	480	N/A

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1, The Higher National Certificate 120 credits will provide the underpinning knowledge for the competence qualification C1 – Level 4 NVQ Diploma in Processing Industries Operations (QCF) 34 Credits.

Competence: Level 4 NVQ Diploma in Processing Industries Operations (QCF). Learners must achieve a minimum of 34 Credits.

Knowledge: The Higher National Certificates. Learners must achieve a minimum of 120 Credits.

The credit values and guided learning hours quoted in the above tables are the minimum for the qualification. These credit values and guided learning hours may vary according to specific pathways/ options taken within qualifications.

Essential Skills

An apprenticeship framework must specify as a Welsh certificate requirement the expected achievement levels of Essential Skills in Communication and the Application of Number.

Where Essential Skills qualifications are specified in an apprenticeship framework, the apprenticeship framework must specify the acceptance of a recognised proxy qualification for Communication and Application of Number.

Communication

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Communication achievement above the minimum SASW requirement? YES ☐ NO ☒

If YES, please state the grade/level required for English and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

Application of Number

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Application of Number achievement above the minimum SASW requirement? YES ☐ NO ☒

If YES, please state the grade/level required for Maths and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

Inclusion of Digital Literacy (ICT)

Digital Literacy (ICT) is an **optional** framework requirement.

Is Digital Literacy a requirement in this framework? **YES** ☒ **NO** ☐

Digital Literacy (ICT)

Please note that there are currently no acceptable proxy qualifications for Digital Literacy (ICT).

For the current **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Digital Literacy (ICT) achievement above the minimum SASW requirement? YES ☐ **NO** ☒

If YES, please state the grade/level required for **Digital Literacy (**ICT) and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

Progression routes into and from this pathway

Progression into this pathway:

There are no pre-defined routes of entry into the Higher Apprenticeship; however, new entrants to the industry may be looking to progress from the following areas:

- Completion of an Apprenticeship in Process Manufacturing or Laboratory and Associated Technical Activities or related science discipline.
- Work based qualifications such as NVQs/ SVQs or vocationally related qualifications in a subject related to Chemical Science (Examples may include: BTEC's, City & Guilds, PAA/VQ-SET Diplomas/ Certificates/ Awards in Science).
- 'A' Levels in Science, Maths or Engineering also provide a strong platform for progression on to the framework.
- Learners who have completed the Welsh Baccalaureate may have completed units or short courses which will provide underpinning knowledge towards the Higher Apprenticeship.
- Previous experience in the industries and services that use life sciences, chemical science and healthcare science or a related science discipline can also be an appropriate route of entry.

Progression from this pathway:

Following completion of this Higher Apprenticeship there are several options open to the successful candidate who wishes to continue their development in order to progress their career. There are opportunities to continue to undertake further vocational training or academic qualifications. These may include (but are not exclusive to) the following:

Career Progression

Undergraduate Degrees in Chemical Science or a related discipline.
Diplomas in Science or a related discipline.
Progression to an honours degree through part-time study with work-based learning.
Continuing Professional Development
Develop their career in coaching through Assessor and Verifier Awards.
Qualifications in a related area, including (but not limited to) Health & Safety, Training & Development, Business Improvement Techniques and Supervisory Management.
Membership of a professional institution at Registered Science Technician level (Further information available at www.professionalregisters.org)

UCAS points for this pathway:

N/A

Employee rights and responsibilities

Please note that for Apprenticeship starts from 14/10/2016 onwards ERR is no longer a **mandatory** requirement in all frameworks.

However, it may still be included in some frameworks and where it is not explicitly stated that ERR is not a requirement then confirmation of an Apprentice's ERR achievement will still remain a requirement for Apprenticeship certification purposes.

Is ERR a requirement for this framework? **YES** ☒ **NO** ☐

Delivery and assessment

This Employee Rights and Responsibilities (ERR) is no longer compulsory. Cogent recommend that all apprentices undertake Employee Rights and Responsibilities (ERR) as part of their induction.

The Cogent Employee's Rights and Responsibilities (ERR) Workbook and Assessment Document has been designed to assist employers and training providers and should be used to deliver this element of the Apprenticeship Framework.

The content is as follows: -

1. Statutory rights and responsibilities under Employment Law.
2. Procedures and documentation that affect the relationship between employee and employer.
3. Sources of information and advice on employment rights and responsibilities.
4. The role played by an Apprentice's occupation in the organisation and industry.
5. Career pathways open to an Apprentice.
6. The types of representative bodies relevant to the industry and organisation and their main roles and responsibilities.
7. Where and how to get advice on the industry, occupation, training and careers.
8. Organisational principles and codes of practice.
9. Issues of public concern that affect the organisation and industry.

It is essential that the Apprentice can demonstrate competence in ERR and, as a result, is required to provide documentary evidence confirming their achievements. Examples of how the evidence can be gathered by individuals include;

- completing a company induction,
- attending relevant taught off-the-job training sessions
- on-the-job assessment.

To obtain a copy of the workbook and assessment document, please visit the Apprenticeships section of the Cogent website at www.cogentskills.com

Claims for Apprenticeship Completion Certificates in Wales are managed through an online system called Apprenticeship Certificates Wales (ACW). http://acwcerts.co.uk/. This will specify the evidence required for claiming a completion certificate.

The remaining sections apply to all levels and pathways within this framework.

How equality and diversity will be met

The Higher Apprenticeship for Life Sciences and Related Science Industries aims to promote diversity, opportunity and inclusion by offering high-quality, learning opportunities.

The delivery of the Apprenticeship Framework must be in environments free from prejudice and discrimination where all learners can contribute fully and freely and feel valued.

There must be no overt or covert discriminatory practices in selection and recruitment of apprentices to the programme, which is available to all people, regardless of gender, ethnic origin, religion/belief, sexual orientation or disability who meet the stated selection criteria.

Barriers:
In the industries and services where there are micro or small to medium enterprises, such as in Biotechnology where 99% of all employers are made up such enterprises, some of these employers cannot cover the range of services that the large employer can cover. There is no defined entry route below graduate into the Life Science industry. Careers advice regarding entry into this particular industry is often poor.

The well-established practice of recruiting graduates into technician roles means that there is low awareness amongst employers of the potential benefits of developing technicians and science professionals though an apprenticeship route, which limits the diversity of the technician intake.

The role of science technician may be perceived to be less valued than that of the graduate scientist and therefore is seen as a less attractive career option, which limits the diversity of the cohort attracted to the science technician profession.

Actions:
Introduction of the Higher Apprenticeship framework.
Cogent plan to introduce a series of industry specific case studies and Careers Pathways on the Cogent Careers web site (www.cogentskills.com/careers) aimed at encouraging people from all

backgrounds to become life sciences, chemical science, process/packaging development and healthcare science professionals. These case studies will also demonstrate the benefits to employers of using the Higher Apprenticeship as a means to improving the diversity of the laboratory, scientific and technical workforce.

On and off the job training

Summary of on- and off-the-job training

For this Higher Apprenticeship the hours outlined in the sections that follow may vary depending on previous experience and attainment of the apprentice. Where a learner enters an apprenticeship agreement having previously attained or acquired the appropriate competence or knowledge, this prior learning needs to be recognised and documented using the relevant QCF credit transfer, QCF exemption or Recognition of Prior Learning (RPL) procedures. The amount of 'on-the-job' training required to complete the apprenticeship under the apprenticeship agreement may then be reduced accordingly, provided the total numbers of 'on-the-job' hours for this framework can be verified for apprenticeship certification.

Those apprentices who commence training under a new apprenticeship agreement with a new employer may bring a range of prior experience with them. When an apprentice can claim 5% or more hours towards the 'on-the-job' framework total through prior learning acquired from previous full-time education, employment or other vocational programme, then the apprentice's learning programme should include "customisation". Training providers are encouraged to identify additional 'on-the-job' training programmes that customise the learning to the new workplace. Customisation programmes may include selecting appropriate additional Unit(s) from QCF qualifications, or relevant units recognised as Quality Assured Lifelong Learning [QALL] through a CQFW recognised body, or follow Essential Skills at a level higher than that specified in the framework, including other competency-based qualifications/units relevant to the workplace.

For an apprentice who has already achieved the relevant qualification, they must have been certificated within 5 years from the date of application for the Higher Apprenticeship/ Apprenticeship Certificate or have been continuously employed in the industry for a minimum duration of 3 years.

Job roles within the Science Industries require a thorough level of technical competence and knowledge which will be undertaken through work-based training, practice, experience and academic study.

'On-the-job' learning must be formally recorded, either in a diary, workbook, and portfolio or be verified by attendance records. This evidence needs to be checked and signed by the employer or mentor. These records of hours may need to be submitted to the Certifying Authority when applying for an apprenticeship completion certificate.

Total Training Hours for the Higher Apprenticeship Pathways

Life Science Technician Higher Apprenticeship Pathway 1: 1003 Total Training Hours Level 4 NVQ Diploma in Laboratory and Associated Technical Activities (QCF) (308 Training Hours)
Higher National Certificate in Natural Sciences (480 Training Hours).
Other framework includes requirements covering Essential Skills Wales, and mentoring (215 Training Hours). This pathway will take a minimum of 24 months to complete.

Chemical Science Technician Higher Apprenticeship Pathway 2: 1003 Total Training Hours
Level 4 NVQ Diploma in Laboratory and Associated Technical Activities (QCF) (308 Training Hours)
Higher National Certificate in Natural Sciences (480 Training Hours).
Other framework includes requirements covering Essential Skills Wales, and mentoring (215 Training Hours). This pathway will take a minimum of 24 months to complete.

Food Science Technician Higher Apprenticeship Pathway 3: 1003 Total Training Hours
Level 4 NVQ Diploma in Laboratory and Associated Technical Activities (QCF) (308 Training Hours) Higher National Certificate in Natural Sciences (480 Training Hours).
Other framework includes requirements covering Essential Skills Wales, and mentoring (215 Training Hours). This pathway will take a minimum of 24 months to complete.

Process Technician Higher Apprenticeship Pathway 4: 1073 Total Training Hours
Level 4 NVQ Diploma in Processing Industries Operations (QCF) (378 Training Hours) Higher National Certificate in Operations Engineering (480 Training Hours). Other framework includes requirements covering Essential Skills Wales, and mentoring (215 Training Hours). This pathway will take a minimum of 24 months to complete.

Off-the-job training

'Off-the-job' training is defined as time for learning activities away from normal work duties. For this framework the training hours for 'off-the-job' training is as follows:

The amount of 'off-the-job' training hours required to complete both the Foundation Apprenticeship/ Apprenticeship includes 215 Training Hours of additional time necessary to meet all of the framework requirements covering Essential Skills Wales, and mentoring.

Below are the 'off-the-job' training hours for the Higher Apprenticeship pathways. The components of the framework undertaken will be decided by the employer, provider and apprentice and be based on the employer's requirements and the prior achievements and prior experience of the apprentice.

Higher Apprenticeship Pathways 1 to 4: 695 'off-the-job' Training Hours
Higher National Certificate (480 Training Hours).
Additional framework requirements covering Essential Skills Wales, and mentoring (215 'off-the-job' Training Hours).

How this requirement will be met

Higher Apprenticeship Pathways 1 to 4

Evidence:

Copy of a certificate for the knowledge qualification-
-Higher National Certificate Level 4 or
-Higher National Diploma Level 5 or
-Foundation Degree Level 5

Copies of the required Certificates for Essential Skills Wales
Copy of a signed declaration from the training provider stating how the training hours for other types of 'off-the-job' training has been achieved.

Example: How the 'off-the-job' learning requirement will be met using the Higher Apprenticeship
Pathway 1
-Higher National Certificate in Natural Sciences [480 Training Hours]
-Level 2 Essential Skills Wales Maths (alternatively Key Skill Level 2 Application of Number) [45 Training Hours]*

- Level 2 Essential Skills Wales English (alternatively Key Skill Level 2 Communication) [45 Training Hours]*
-Level 2 Essential Skills Wales Digital Literacy (alternatively Key Skill Level 2 ICT) [45 Training Hours]*
-Company Induction [40 Training Hours]
-Mentoring for the duration of the framework [40 Training Hours]

Total [695 Training Hours]

Training hours delivered under an apprenticeship agreement may vary depending on the previous experience and attainment of the apprentice.

The amount of off-the-job training required to complete the apprenticeship under the apprenticeship agreement may then be reduced accordingly, provided the total number of off-the-job hours for this framework can be verified for apprenticeship certification.

Previous attainment

Where a learner enters an apprenticeship agreement having previously attained parts or all of the relevant qualifications, this prior learning needs to be recognised using either QCF credit transfer for achievement within the QCF or through recording of exceptions for certification learning outside of the QCF, for example Principal Learning qualifications. For an apprentice who has already achieved the relevant qualifications, they must have been certificated within 5 years of applying for the Higher Apprenticeship Certificate.

Previous experience

Where a learner enters an apprenticeship agreement with previous work-related experience, this prior learning needs to be recognised for further details please see QCF guidance on claiming credit. To count towards apprenticeship certification, previous experience must be recorded using the appropriate Awarding Organisation's QCF "Recognition of Prior Learning" procedures and the hours recorded may then count towards the off-the-job hours required to complete this apprenticeship.

For an apprentice with prior uncertificated learning experience, the off-the-job learning must have been acquired within 2 years of application for the Higher Apprenticeship Certificate or have been continuously employed in the relevant job role in the industry for a minimum duration of 3 years.

Off-the-job training needs to:

-Be planned, reviewed and evaluated jointly between the apprentice and a tutor, teacher, mentor or manager;
-Allow access as and when required by the apprentice either to a tutor, teacher, mentor or manager;
-Be delivered during contracted working hours; Be delivered through one or more of the following methods: individual and group teaching , e-learning, distance learning, coaching, mentoring, feedback and assessment, collaborative/networked learning with peers, guided study and induction.

Off-the-job training must be formally recorded either in a diary, workbook, portfolio, or be verified by attendance records. The evidence needs to be checked and signed by the assessor and employer.

On-the-job training

'On-the-job' training is defined as skills, knowledge and competence gained within normal working duties. For this framework the training hours for 'on-the-job' training is as follows:

Higher Apprenticeship Pathways 1 to 3

Higher Apprenticeship Pathway 1 to 3: 308 Training Hours
Level 4 NVQ Diploma in Laboratory and Associated Technical Activities (QCF)

Higher Apprenticeship Pathway 4

Higher Apprenticeship Pathway 4: 378 Training Hours
Level 4 NVQ Diploma in Processing Industries Operations (QCF)

How this requirement will be met

Higher Apprenticeship Pathways 1 to 4

Evidence:
Copy of a Certificate for the competence qualification –
-Level 4 NVQ Diploma in Laboratory and Associated Technical Activities (QCF) or
-Level 4 NVQ Diploma in Processing Industries Operations (QCF)

Copy of any certificates for any training courses attended
Copy of any completed assessor/ monitoring reports
Copy of any signed declaration from the training provider stating how the training hours for other types of 'on-the-job' training has been achieved.

Wider key skills assessment and recognition

While Wider Key Skills are not a **mandatory** part of the framework, training providers are encouraged to provide apprentices the opportunity to achieve them.

For this framework, there are natural opportunities for Wider Key Skills to be embedded within the mandatory units of the following qualifications:

Enter Qualification Names

Improving own learning and performance

Not required

Working with others

Not required

Problem solving

Not required

apprenticeship
FRAMEWORK

For more information visit-
www.acwcerts.co.uk/framework_library