

apprenticeship FRAMEWORK

Food and Drink Technical

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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Apprenticeship Certification
Wales

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Food and Drink Technical

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Framework information

Information on the Issuing Authority for this framework:

The National Skills Academy for Food & Drink (formerly Improve)

The Apprenticeship sector for occupations in food and drink manufacturing and processing.

Issue number: 2	This framework includes:
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Date this framework is to be reviewed by: 31/03/2023	This framework is for use in: Wales

Short description

The Food and Drink Technical Apprenticeship aims to provide learners with significant amounts of technical capability that currently are not delivered via the Food and Drink - Non-Statutory (Wales) Framework.

This new Level 3 framework will include specific pathways for job roles, such as Food Technologist and Food Engineer, where substantial amounts of technical, science and product learning needs to take place.

Contact information

Proposer of this framework

The National Skills Academy for Food & Drink is developing this framework on behalf of employers in the Food Engineering Maintenance and Food Science and Technology Wales Industry Skills Partnership.

The purpose of this Wales Industry Skills Partnerships is to drive skills development across the food and drink sector to support higher productivity and growth in line with Welsh Government's Food Action Plan.

Employers involved in this partnership are: Gower View Foods, 2 Sisters Food Group, Welsh Cottage Cakes, Allied Bakeries, Wholebake Ltd., Volac, Authentic Curries, Dawn Meats, Bangor Mussel Producers Ltd., Princes Ltd., Mark Hunter Ltd., Llanllyr Water, Joe's Ice Cream Ltd., Bon Bon Buddies Ltd., Castell Howell Foods, Arla Foods, Roil Foods Ltd., Plas Farm, The Cake Crew and Carmarthenshire Cheese Company.

Developer of this framework

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Your organisation National Skills Academy for Food & Drink

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Revising a framework

Why this framework is being revised

Review of Food and Drink Engineering Maintenance Pathway

Summary of changes made to this framework

No changes required, next review due by 31/03/2023

Qualifications removed

Framework Developer to complete with relevant info

Qualifications added

Framework Developer to complete with relevant info

Qualifications that have been extended

Framework Developer to complete with relevant info

Purpose of this framework

Summary of the purpose of the framework

The Food and Drink industry is a technically challenging industry in which to operate requiring the application of science and engineering principles to develop, manufacture and supply safe, high quality food and drink products consumed by 64 million people on a daily basis via retail or out of home.

Wales has a recognised shortage of skills in food and drink engineering and in food science and this shortage is at Technician level as well as at Degree level. The purpose of this framework is to provide the industry with the STEM based apprenticeships for technician level roles required to address these shortages.

Food and drink manufacturing in Wales has a turnover of £4.1bn. The industry employs more people and has greater opportunity for future employment than other sectors, such as pharmaceuticals, agriculture and automotive manufacturing. Forecasts are for 8,000 more jobs in food manufacturing in Wales between 2014 and 2024.

The Welsh food and drink manufacturing sector employs 16,000 people. Around 69% of people working in the sector are men and 31% are women. The workforce is made up of 88% of employees who are employed on a full-time basis.

Exports from the food and drink manufacturing sector in Wales were £358m in 2016 – an increase of 5% since 2013. The most exported products by value were dairy products (£46m) and meat products (£73m).

The largest three subsectors in Wales by turnover are bakery (10%), beverages (19%) and meat (30%).

Food and drink manufacturing is unique – unlike many manufacturing sectors, where steel and components are assembled, food raw ingredients are live and variable according to seasons, climate and a range of other considerations. They interact with each other, with food handlers and with machinery and this influences the method, approach and equipment required to undertake the manufacturing processes. All those involved with the product require an understanding of the effect their interventions have on the product during both the maintenance and production cycles as well as when new products are trialled or introduced. Altering the final composition of a product to meet dietary or other consumer concerns can have a significant impact on the production methods and the relationship between the raw ingredients, production environment and final product has significant interdependency and variability.

With increasing levels of automation entering the industry the level of scientific and technical knowledge is at the 'technician level' – those who are increasingly being given greater responsibility

for day to day maintenance of engineering and quality functions.

This technical apprenticeship framework seeks to provide within it the necessary and unique STEM based knowledge and relevant industry skills to enable these individuals to become competent in increasingly complex job roles throughout the food and drink manufacturing supply chain.

The rate of adoption of automation and innovation has and will continue to accelerate dramatically. Automation is transforming the industry and this is twofold; more automation is entering the industry and existing automation is becoming more sophisticated. The sheer speeds of manufacturing differentiate the industry from other highly automated sectors such as Automotive. Effective and efficient manufacture via reliable and well-designed facilities is vital to ensure that the supply chain costs are minimised and that food is at optimum quality and safety levels.

Safety is the bedrock of the industry and innovation its lifeblood and the technologist role is vital to both; whether supporting the audit of food safety procedures, or redeveloping products to meet increasingly divergent consumer needs such as low fat, high protein or reduced sugar, food technologists play a significant role in the production team.

This Welsh framework in particular supports the ambitions of the Future Wellbeing of Generations Act. The framework will support the development of well-trained new roles for food engineers able to maintain the efficiency of their production facilities, ensuring greater levels of productivity and reduced wastage; food technologists will be able to support the development of new innovative products potentially harnessing Welsh provenance, local ingredients or improving the nutritional content. Both these roles are vital as the industry transforms itself from an industry whose jobs are associated with the foundational economy to one associated with science, technology and higher skilled roles.

[The Need for Technical Apprenticeships](#)

There are severe skills shortages in engineering and the lack of design of programmes around food engineering has been a barrier to addressing the skills gap. This is exacerbated by an ageing demographic in the workforce and yet a lack of awareness and attraction of the sector to young people. Historically the industry acknowledges it hasn't trained sufficient number of engineers – however it is no coincidence that there have never been any specialist food and drink engineering apprenticeships available. If we are to break the cycle, the programmes on offer have to be fit for purpose for the industry. The Food and Drink Engineering Maintenance pathway will contribute to addressing these issues.

Shortages in food science have developed as historically the industry has relied only on graduates to fill food technologist roles and both the UK and Welsh supply of food graduates has declined over time. This framework will contain a food technologist pathway which, for the first time, will provide a vocational route with a real focus on food science and technology.]

Aims and objectives of this framework (Wales)

The aim of this framework is to attract new people into the food and drink industry to fill technical roles from a wide range of backgrounds to replace those who leave or retire and to upskill the existing workforce in Wales.

The objectives are to:

- Contribute to addressing skills gaps in the food and drink sector
- Contribute to increasing productivity and performance through pathways such as Food and Drink Engineering Maintenance
- Provide progression for apprentices to encourage the shift towards 'higher-skills' requirements
- Provide entry routes to attract people to the food and drink industry, to ensure that the industry represents its customer base in terms of diversity

For further information on job roles and career opportunities visit www.tastycareers.org.uk

Entry conditions for this framework

Employers will set their own entry criteria for the apprenticeship, but typically an entrant to this apprenticeship will already have achieved a minimum of Level 2 in English, maths, a science and ICT. But, the only mandatory components are L2 English and maths (or equivalent Essential Skills) which must be completed.

To be successful in an apprenticeship, the potential apprentice will need to demonstrate attributes such as self-reliance, high motivation and good interpersonal skills. It is likely that they will have gained some experience that will enable these personal qualities to be identified. For instance, participation on a pre-apprenticeship programme or a work-related placement (especially within the food and drink sector) would provide a good grounding.

Entry conditions for all pathways include having a high standard of cleanliness and being able to follow strict hygiene and health and safety rules. Medical advice should be sought about the suitability of the apprenticeship if the applicant suffers from a food related allergy.

Progression opportunities onto the Apprenticeship are open to those who have experience in the sector or those looking for a career change as well as to new entrants.

Rules to avoid repeating qualifications

Processes exist to make sure that applicants with prior knowledge, qualifications and/or experience are not disadvantaged by having to repeat learning. Training providers, Colleges and Awarding Organisations will be able to advise on the current rules for accrediting prior learning and recognising prior experience. There are no relaxations or proxies for any qualifications specified in a framework in SASW, however, providers are encouraged to identify additional on-the-job training programmes that customise the learning to the new workplace.

Initial assessment

Training providers and employers will use an initial assessment process to ensure that applicants have a fair opportunity to demonstrate their ability and to tailor programmes to meet individual needs. This process will take into account prior experience of work in the sector that may be recognised by the awarding organisation as well as qualifications.

Essential Skills Wales (ESW)

ESW in Application of Number and Communication need to be achieved at the required levels even if the apprentice has already has GCSEs in English and Maths. There are no proxies, no exemptions or relaxation allowances for ESW (information about ESW can be found on the Welsh Assembly Government website). Key Skills qualifications (at the same level and subject) will be accepted as alternatives to ESW qualifications. However, apprentices holding Key Skills should be encouraged to achieve ESW at a higher level, during their apprenticeship programme.

Level 3

Title for this framework at level 3

Apprenticeship in Food and Drink Technical

Pathways for the framework at level 3:

Pathway 1: Food and Drink Engineering Maintenance

Level 3, Pathway 1: Food and Drink Engineering Maintenance

Description of this pathway

Apprenticeship in Food and Drink Technical (Food and Drink Engineering Maintenance)

The recommended minimum pathway time for duration is 42 months.

Total minimum credit value for this pathway is 262 credits:

- Total minimum credit value for the combined competence and knowledge qualification = 250 credits
- Essential Skills Wales (ESW) in Communication and Application of Number = 12 credits

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

There are no additional requirements other than the general entry conditions.

Job title(s)	Job role(s)
Food and Drink Maintenance Engineer	Engineering activities including routine maintenance, fault finding and diagnosis, testing and commissioning

Qualifications

Competence qualifications available to this pathway

N/A

Knowledge qualifications available to this pathway

N/A

Combined qualifications available to this pathway

B1 – Level 3 Diploma in Food and Drink Engineering Maintenance

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
B1a	603/0355/4	City & Guilds	250	1320	X.

Relationship between competence and knowledge qualifications

The Level 3 Diploma in Food and Drink Engineering Maintenance includes both knowledge and competence units. Learners must complete a minimum of 250 credits.

The qualification is achieved through the completion of a set of mandatory units; plus units from the mechanical pathway or the multi-skilled pathway.

The minimum guided learning hours for the mechanical pathway is 1320 hours.

The minimum guided learning hours for the multi-skilled pathway is 1415 hours.

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:

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:

Inclusion of Digital Literacy (ICT)

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

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

Progression routes into and from this pathway

Prior study/qualifications for entry into the Level 3 Apprenticeship in Food and Drink Technical (Food and Drink Engineering Maintenance pathway)

There are no specific qualification requirements for entry into the Level 3 Apprenticeship in Food and Drink Technical, but examples of qualifications and training that may provide a useful grounding include:

- Welsh Baccalaureate qualifications
- Wider Key Skills
- Essential Skills Wales
- GCSEs in maths and science
- L2 Food and Drink or Engineering Apprenticeships
- Previous experience of having worked in the sector

Progression routes from the Apprenticeship in Food and Drink Technical (Food and Drink Engineering Maintenance)

The progression routes include into higher level roles within the food and drink or engineering sectors.

Opportunities for further training and education include:

- Higher National Certificates/Higher National Diplomas in Engineering
- Foundation Degrees in Engineering
- BA Honours Degrees
- Related professional courses

Further information about careers in the food and drink industry can be found on NSA's website at www.tastycareers.org.uk

UCAS points for this pathway:

(no information)

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

[Framework Developer to complete with relevant info]

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

How equality and diversity will be met

The food and drink industry in Wales is predominantly male, making up over two-thirds (68%) of the workforce; 32% are female. In comparison, a more balanced gender distribution exists across all industries in Wales where 53% are male and 47% are female. 36% of Welsh food and drink employees fall within the 45 to 54 years age group; 8% are aged 30 to 34; and only 17% are aged 16 to 29 years. (Skills Insights and Labour Market Facts about the Food and Drink Manufacturing and Processing industry in Wales 2013-2014, Improve Limited 2013).

This framework is an important route to encourage greater diversity within the industry and the following actions are being taken to promote equality and inclusion:

- Ongoing monitoring of data to identify any issues and intervene where necessary
- Promotion of the industry to a diverse audience through our careers website Tasty Careers www.tastycareers.org.uk and Tasty Careers Ambassadors
- Industry Skills Partnerships to raise awareness of the benefits of Apprenticeships to employers

All partners involved in the delivery of apprenticeships, including training providers, centres and employers, must be committed to a policy of equal opportunities and must have robust equality and diversity policies and procedures.

Training providers and employers must comply with the Equality Act 2010 to ensure that applicants are not discriminated against in terms of entry to, and progression within, the industry, using the nine protected characteristics of:

- Age
- Disability
- Gender
- Gender reassignment
- Marriage and civil partnership
- Pregnancy and maternity
- Race
- Religion or belief
- Sexual orientation

Access to this Framework is open to all learners who meet the entry conditions and does not present a barrier to entry and progression.

Further guidance to help you understand and use the Equality Act 2010 can be found here: www.equalityhumanrights.com.

On and off the job training

Summary of on- and off-the-job training

Summary of on- and off-the-job training

Providers must ensure that their delivery models are structured to deliver the framework.

Training hours:

- are delivered during contracted working hours under an Apprenticeship Agreement, or during a qualifying period of 5 years ending on the date of application for a certificate
- where job roles in the framework at particular levels are predominantly part time, the timescales for the framework must be extended so that the correct number of on and off the job training hours are achieved

On and off-the-job training hours:

- must be planned, reviewed and evaluated jointly between the apprentice and tutor, teacher, mentor or manager
- must allow training support via a tutor, teacher, mentor or manager
- are 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.

On and off-the-job training hours will vary depending on the previous experience and attainment of the apprentice. Apprentices may be credited with any unit of a qualification previously certificated provided that this has been achieved within five years of registration for the remaining units in the qualification, and should follow the relevant awarding organisation's Recognition of Prior Learning (RPL) procedures.

Where RPL is identified, the apprentice's learning programme should be tailored to allow for this.

The minimum training hours for the framework, which includes on-the-job training and off-the-job training, 2 x Essential Skills Wales qualifications, induction and mentoring are confirmed below for each pathway of the Food and Drink Technical framework:

Level 3 Apprenticeship in Food and Drink Technical

Pathway 1 Food and Drink Engineering Maintenance = 2951 hours, made up of:

- Combined qualification minimum total qualification time (TQT) = 2495 hours
- Essential Skills Wales qualifications (notional value hours 60×2) = 120 hours
- Induction = 35 hours
- Off-the-job mentoring, training and support activities = 168 hours (at least one hour per week for the duration of the programme)
- On-the-job mentoring = 105 hours (at least 30 hours per year for the duration of the programme)
- Progress review = 28 hours (at least two hours every 3 months for the duration of the programme)

Off-the-job training

Level 3 Apprenticeship in Food and Drink Technical

Pathway 1 Food and Drink Engineering Maintenance = 1671 hours, made up of:

- Minimum off-the-job training hours (expressed as guided learning hours) from the combined qualification = 1320 hours
- Essential Skills Wales qualifications (notional value hours 60×2) = 120 hours
- Induction = 35 hours
- Off-the-job mentoring, training and support activities = 168 hours (at least one hour per week for the duration of the programme)
- Progress review = 28 hours (at least two hours every 3 months for the duration of the programme)

This is provided as guidance and will vary according to the prior learning and experience each apprentice has at the start of their programme.

How this requirement will be met

Level 3 Apprenticeship in Food and Drink Technical

Pathway 1 Food and Drink Engineering Maintenance

Examples of off-the-job activities to develop the knowledge required for the job role, i.e., away from the immediate pressures of the workplace, include access to a computer during working hours, day release, block release, web-based learning, mentoring, etc.

Off-the-job learning hours must be recorded, for example, in a logbook or diary.

Learning hours delivered under an Apprenticeship Agreement may vary depending on the previous experience and attainment of the apprentice.

Evidence of completion of off-the-job learning hours (see How to claim the Apprenticeship Completion Certificate at the end of this section)

- Completion of the required combined qualification for this pathway (See How to Claim the Apprenticeship Completion Certificate)
- Level 2 Essential Skills Wales (ESW) certificates for Application of Number and Communication (or acceptable alternatives)
- Declaration form signed and dated by the apprentice and provider that the off-the-job learning hours have been completed

On-the-job training

Level 3 Apprenticeship in Food and Drink Technical

Pathway 1 Food and Drink Engineering Maintenance = 1280 hours, made up of:

- Minimum on-the-job training hours from the combined qualification = 1175 hours
- On-the-job mentoring = 105 hours (at least 30 hours per year for the duration of the programme)

This is provided as guidance and will vary according to the prior learning and experience each apprentice has at the start of their programme.

How this requirement will be met

[Level 3 Apprenticeship in Food and Drink Technical](#)

[Pathway 1 Food and Drink Engineering Maintenance](#)

Examples of on-the-job training activities include embedding knowledge into workplace activities, coaching sessions and performance reviews, mentoring, assessment of competence, the building of portfolios, keeping diaries/logs, peer review discussions, etc.

On-the-job training hours must be recorded, for example in a logbook or diary.

[Evidence of completion of on-the-job training hours \(see \[How to claim the Apprenticeship Completion Certificate at the end of this section\]\(#\)\)](#)

- Completion of the required combined qualification for this pathway (See [How to Claim the Apprenticeship Completion Certificate](#))
- A coaching and mentoring record signed by the apprentice and provider/coach/mentor (not required at certification stage)
- Declaration form signed by the apprentice and provider that the on-the-job training hours have been completed (not required at certification stage)

[How to claim the Apprenticeship Completion Certificate](#)

At the end of their apprenticeship, apprentices must apply for their Apprenticeship Completion certificate and provide all relevant evidence as stated below.

From 2 September 2013 the on line system, Apprenticeship Certification Wales (ACW) must be used to apply for a certificate. To arrange ACW log in details or for queries on claiming the certificate, please contact NSA.

[Qualifications evidence](#)

- Evidence of achievement of the required principal qualification (e.g. the qualification certificate) must be provided. This must include the unit credit page as evidence of compliance with the requirements of the Apprenticeship (i.e. that the qualification meets the minimum number of credits, including the required minimum number of competence and knowledge component credits as set out elsewhere in this Framework).
- Transferable skills – evidence of achievement of the relevant Essential Skills Wales

[Other evidence required](#)

Where Recognition of Prior Learning (RPL) is being claimed, documentary evidence must be

provided, in accordance with the relevant awarding organisation's RPL procedures. All evidence must be uploaded to ACW.]

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:

<p>[Enter Qualification Names]</p>

Improving own learning and performance

[Following consultation with stakeholders including employers, Wider Key Skills Wales are to be encouraged but not made mandatory within the framework.]

Working with others

[Following consultation with stakeholders including employers, Wider Key Skills Wales are to be encouraged but not made mandatory within the framework.]

Problem solving

[Following consultation with stakeholders including employers, Wider Key Skills Wales are to be encouraged but not made mandatory within the framework.]

apprenticeship **FRAMEWORK**

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