UNCOVER
LEARNER
POTENTIAL

WJEC Level 3 Alternative Academic Qualification in

FOOD SCIENCE AND NUTRITION

(Extended Certificate)

Teaching from September 2026

SPECIFICATION

Qualification Information

Qualification Title	**WJEC Level 3 Alternative Academic Qualification (in Food Science and Nutrition (Extended Certificate)**
Qualification Objective	To prepare learners to progress to a qualification in the same/similar subject area at a higher level.
WJEC Qualification Code	4523QX
Ofqual QN	610/6189/X
QiW Number	
Age groups approved for	16-18, 19+
First teaching	2026
First certification	2028
Key documentation	Sample Assessment Materials Assessment Packs Guidance for Teaching Administration Guide

Version and date	**Description**	**Section and page**
1.	Published Approved Specification	n/a
Our specifications may change over time. WJEC will inform centres of any amendments and the most up to date version of the specification will always be on the website		

Contents

1. Why choose us?

We are one the largest providers of qualifications for schools, academies, sixth form and further education colleges across England, Wales and Northern Ireland, offering valued qualifications to suit a range of abilities.

Everything we do is focused on providing you and your learners with the opportunities and tools needed for success.

Your learners will benefit from our accessible approach to assessment, while our comprehensive package of subject support, resources and training will help you teach with confidence.

Accessible, reliable assessment

Our accessible approach to assessment offers learners every opportunity to succeed by demonstrating their skills, knowledge and understanding.

Easy access to specialist subject support

Getting help from your exam board shouldn't be a challenge. As well as being subject experts, our subject officers are former teachers who understand the issues you face in the classroom.

Free high-quality teaching resources

Our free online teaching resources are designed by an expert team to guide both teachers and learners through our specifications.

Expert-led training opportunities

We'll provide you with all the training you need to deliver our qualifications with confidence.

Learn more at our websites:

- www.eduqas.co.uk
- www.wjec.co.uk

2. Qualification Overview

2.1. Sector overview

Food Science is an applied science that combines expertise from biology, chemistry, engineering, and health sciences to address pressing issues such as food security, malnutrition, and diet-related chronic diseases. The Food Science and Nutrition sector plays a critical role in improving global health, food quality, and sustainability.

This sector encompasses two key components: food science, which focuses on food production, safety, processing, and innovation, and nutrition, which examines the relationship between diet and health to prevent and manage diseases.

Current trends driving the sector include rising consumer demand for health-conscious products such as functional foods, probiotics, and plant-based alternatives. Sustainability is also a major focus, with companies investing in alternative proteins, sustainable packaging, and strategies to reduce food waste.

Technological advancements are reshaping food production and safety, while personalised nutrition, driven by genetics and microbiome research, is gaining traction. Despite these advancements, challenges remain, including addressing global food security for a growing population, reducing health disparities, and managing environmental impacts.

Governments, food and beverage companies, research institutions, and consumers are key stakeholders influencing the sector's evolution. Regulatory frameworks are becoming stricter, especially around food safety and labelling, pushing companies to adopt transparency and innovation.

Emerging markets also offer opportunities for growth through the development of affordable, fortified products tailored to local nutritional needs.

By integrating innovation and sustainability, the sector is poised to address global health challenges and drive progress toward a healthier, more sustainable future. As the demand for nutritious, safe, and eco-friendly food grows, the Food Science and Nutrition sector is uniquely positioned to improve quality of life and support global health objectives.

2.2. Who is this qualification for?

This qualification is designed for 16–18-year-olds who are interested in food science, nutrition, and health and are considering pursuing graduate careers in these fields. It is ideal for learners with a strong interest in the science behind food production, dietary health, and the broader impact of nutrition on well-being. This Academic Qualification bridges the gap between academic theory and practical application, developing real-world skills alongside a solid academic foundation.

The qualification will be of particular interest to learners who intend to progress to higher education and pursue careers in areas such as dietetics, food science, nutrition consultancy, public health, or food product development. It provides learners with an in-depth understanding of key topics, such as food safety, the role of nutrients in the human body, and the development of innovative food products. By focusing on applied learning, the qualification prepares learners for the demands of higher education, equipping them with research, analytical, and practical skills that will benefit them in university courses and beyond.

This qualification will also appeal to learners interested in solving real-world challenges, such as combating obesity, improving food sustainability, or addressing food security issues. It provides a solid foundation for progression in public health initiatives, food policy development, or the research and development sectors within the food industry. The curriculum encourages creativity, critical thinking, and problem-solving, all of which are essential for succeeding in competitive and evolving industries.

Additionally, the qualification provides valuable opportunities for learners to explore the interdisciplinary nature of food science and nutrition, helping them to identify their specific areas of interest within the industry.

On completion of the qualification, learners will be able to demonstrate that they:

- have factual, procedural and theoretical knowledge and understanding of food science and nutrition to complete tasks and address problems that while well-defined, may be complex and non-routine
- be able to interpret and evaluate relevant information and ideas
- be aware of the nature of the area of food science and nutrition
- be aware of different perspectives or approaches within the area of food science and nutrition and be able to identify, select and use appropriate cognitive and practical skills, methods and procedures to address problems that while well-defined, may be complex and non-routine
- be able to use appropriate investigation to inform actions
- will be able to review how effective methods and actions have been.

The qualification will provide reliable higher education institutions and other stakeholders evidence of learners' attainment in food science and nutrition and will serve as a basis for schools to be held accountable.

2.3. Prior learning requirements

There are no prior learning requirements for this specification. Any requirements set for entry to a course following this specification are at the discretion of centres.

It is reasonable to assume that many learners interested in this qualification will already have achieved qualifications equivalent to level 2.

2.4. Qualification Structure

The qualification develops learners' knowledge and understanding in areas such as nutrition and nutritional needs and food safety, as well as supporting learners to develop their practical food production skills to produce quality food items to meet the needs of individuals and specific situations.

Learners are required to complete three mandatory units and can select their fourth unit from a choice of two:

Unit	GLH	Mandatory/ Optional	Assessment
Unit 1: Nutritional needs across the life stages	90	Mandatory	External
Unit 2: Developing practical food production skills	90	Mandatory	Internal
Unit 3: Principles of food hygiene and food safety in food production	90	Mandatory	External
Unit 4: Experimenting to solve food production problems	90	Optional	Internal
Unit 5: Current issues in food science and nutrition	90	Optional	Internal

2.5. Qualification size

The size of the WJEC Level 3 Alternative Academic Qualification in Food Science and Nutrition (Extended Certificate) is expressed in terms of guided learning hours and total qualification time.

Guided learning hours (GLH) means activities such as classroom-based learning, tutorials and online learning, which are directly supervised by a teacher, tutor or invigilator. It also includes all forms of assessment which take place under the immediate guidance or supervision of a teacher, supervisor or invigilator.

Guided learning hours are allocated per unit to support centre planning and delivery. Teachers may choose to deliver this qualification holistically and, therefore, guided learning hours per unit are a recommendation only.

Total qualification time (TQT) is the total amount of time, in hours, expected to be spent by a learner to achieve a qualification. It includes both the guided learning hours and/or supervised assessment (GLH) and additional time spent in preparation, study and some formative assessment activities.

The GLH and TQT assigned to this qualification is:

GLH	TQT
360	540

2.6. Related qualifications

There are two qualifications available in Food Science and Nutrition. These are:

WJEC Level 3 Alternative Academic Qualification in Food Science and Nutrition (Certificate)– this is 180 GLH in size.

WJEC Level 3 Alternative Academic Qualification in Food Science and Nutrition (Extended Certificate) – this is 360 GLH in size.

This Extended Certificate is a full Level 3 qualification, which is the same size as an A Level. It's a great choice for learners who want to learn more about applied science and build useful knowledge and skills for the future. It has been designed to be taken alongside other AAQs or as part of a Key Stage 5 study programme. It works well with other subjects and helps prepare learners for university or other higher education options.

The Certificate is a smaller Level 3 qualification, half the size of the Extended Certificate. Learners should take the Certificate qualification if they want a small Level 3 qualification that builds some applied knowledge and skills in Food Science and Nutrition. It can be taken alongside other AAQs and A Levels as part of a Key Stage 5 study programme. It's a good way to broaden learning and strengthen skills for university or other higher education paths.

2.7. Recommended equipment

Centres delivering this qualification should ensure the following resources are available to support effective teaching and learning of the practical element:

- **A suitably equipped kitchen environment** that allows learners to carry out practical tasks with ease, ensuring they have enough personal space to work confidently and safely.
- **Adequate work surface areas** to prevent overcrowding and to allow for a full range of food preparation activities to take place simultaneously.
- **A good selection of kitchen tools and appliances**, including some powered or automated equipment, to support the development of both basic and advanced preparation techniques.
- **A range of utensils** so that learners can progress through tasks efficiently without needing to stop and wash items for reuse.
- **Sufficient number of hobs and ovens** to allow learners to explore different cooking techniques without being limited by access to key equipment.
- **Sufficient chilled and frozen storage**, such as fridges and freezers, with enough capacity to handle ingredients and finished dishes in line with food safety requirements.
- **Sufficient access to sinks** to promote good hygiene practice and to support safe working conditions during practical sessions.
- **Sufficient scientific equipment** to undertake Unit 4.

- **IT access**, including devices or systems for learners to document, store, and present their work digitally.
- **A method of capturing visual evidence**, such as a camera or mobile device, to document practical outcomes for assessment purposes.

3. Summary of assessment

Mandatory Units	
Unit 1: Nutritional needs across the life stages **Written examination: Time of exam – 1 hour 30 minutes** **25% of qualification**	**80 marks**
Questions requiring objective responses, short and extended responses with some based around applied situations.	
Unit 2: Developing practical food production skills Non-examination assessment: 9 hours 30 minutes **25% of qualification**	**100 marks**
An annual assignment brief will be provided by WJEC which will include a scenario and several tasks, available via the WJEC Portal.	
Unit 3: Principles of food hygiene and food safety in food production **Written examination: Time of exam – 1 hour 30 minutes** **25% of qualification**	**80 marks**
Questions requiring objective responses, short and extended responses, with some based around applied situations.	

Optional Units	
Unit 4: Experimenting to solve food production problems **Non-examination assessment: 12 hours** **25% of qualification**	**100 marks**
An annual assignment brief will be provided by WJEC which will include a scenario and several tasks, available via the WJEC Portal.	
Unit 5: Current Issues in Food Science and Nutrition **Non-examination assessment: 12 hours** **25% of qualification**	**100 marks**
An annual assignment brief will be provided by WJEC which will include a scenario and several tasks, available via the WJEC Portal.	

4. Units

4.1. Our unit format

Unit information is presented in a consistent format as shown below.

Section	Description
Unit title	This provides the full title of the unit.
Guided learning hours (GLH)	This provides guidance on the number of guided learning hours that will be required to deliver the unit. Guided learning means activities such as classroom-based learning, tutorials and online learning, which is directly supervised by a teacher, tutor or invigilator. It also includes all forms of assessment which take place under the immediate guidance or supervision of a teacher, supervisor or invigilator. GLH is provided per unit to support delivery. Teachers may choose to deliver all or parts of this qualification holistically and, therefore, hours per unit are a recommendation only.
Mandatory/Optional	This identifies if the unit is optional or mandatory.
Context	This sets the vocational context for the unit, i.e., why is it important that the learner gains the knowledge, understanding and skills delivered through this unit.
Overview of unit	This provides a summary of the knowledge, understanding and skills that the learners will acquire through completing the unit.
Topics	This provides a list of the topic areas covered in the unit.
Summary of assessment	This summarises the assessment arrangements for the unit, including whether the unit is internally (centre) assessed or externally assessed.
Content (sections and amplification)	This sets out the required teaching for the unit. Content for each topic is sub-divided into sections. Amplification for each section, provided in the right-hand column, includes content that must be taught. There is no hierarchy implied by the order in which the content is presented, and the order does not imply a prescribed teaching order.

4.2. How to read the amplification

The amplification provided in the right-hand column uses the following four stems:

- ‘Learners should know’ is used when learners are required to use direct recall.
- 'Learners should be aware of’ is used when learners do not need to understand all aspects of the specified content in detail.
- ‘Learners should understand’ is used when learners are required to demonstrate greater depth than straight identification or recall, for example, they can apply knowledge to familiar or unfamiliar contexts and can synthesise and evaluate information for a given purpose.
- ‘Learners should be able to’ has been used when learners need to apply their knowledge and understanding to a practical situation or demonstrate application of practical skills and techniques.

The use of the word 'including' indicates that the specified content must be taught and could be subject to assessment.

The use of the words ‘for example’ or ‘such as’ indicates that the specified content is for guidance only, and alternative examples could be chosen.

Teachers should refer to guidance for teaching documents for further guidance on the depth and breadth to which this content should be taught.

Unit 1

Unit title	Nutritional needs across the life stages
GLH	90
Mandatory/Optional	Mandatory
Context	The study of nutrition is essential in society as there are huge pressures on the global food system and increasing incidences of poor nutrition, despite a growth in interest in food related issues. Understanding nutritional requirements for a balanced diet will allow us to make informed dietary choices. Those working in food production need an appreciation of the nutritional value of food and the effect of this on individuals, as nutritional requirements can vary according to age, health, religion, and lifestyle choices. Care sector workers need to ensure that meals meet the needs of specific patient groups: elderly, sick and nutritionally vulnerable. Those working as personal trainers need to understand how the nutritional intake of an athlete can impact on their performance and know the most effective methods of preparing food to maximise its nutritional value.
Overview of unit	This unit develops knowledge and understanding of food and nutrition across the life stages.
Topics	1.1 Understand properties of nutrients 1.2 Understand the relationship between nutrients and the human body 1.3 Be able to plan nutritional requirements
Summary of assessment	This unit is externally assessed through a written examination available in May/June each year. The external assessment will: • be set and marked by WJEC • consist of a 1 hour 30 minutes paper • assess content from each topic in the unit each series • include 80 marks • include a balance of short and extended answer questions, based on stimulus material and applied contexts • only use the command words listed in the Assessment Guide • be graded A-E.

	Each paper will consist of three sections (Section A, B and C). • Section A will consist of short answer questions. • Section B will consist of extended answer questions. • Section C will be based on a case study. All questions in all sections will be compulsory.

1.1 Understand properties of nutrients

In this topic learners will gain knowledge and understanding of the following areas:

1.1.1 How nutrients are structured
1.1.2 The functions of nutrients in the human body
1.1.3 Classify nutrients in food
1.1.4 The impact of food production methods on nutritional value

Content

Section	Amplification

1.1.1
How nutrients are structured
	Learners should know how nutrients are structured, including:
	
	Macronutrients:
	• carbohydrates:
	  • simple carbohydrates, for example:
	  • monosaccharides (single units), such as:
	  • Glucose
	  • Fructose
	  • Galactose
	  • disaccharides (two units), such as:
	  • Sucrose
	  • Lactose
	  • Maltose
	• complex carbohydrates, for example:
	  • oligosaccharides (3-10 units), such as:
	  • Raffinose
	  • Stachyose
	  • Verbascose
	• dietary fibre (NSP)
	  • soluble
	  • insoluble
	• glycogen.
	
	• lipids, for example:
	  • fats
	  • saturated
	  • unsaturated
	  • sterols
	  • oils
	  • waxes.
	
	• proteins, for example:
	  • Actin
	  • Collagen
	  • Haemoglobin
	  • Immunoglobulins.
	
	Micronutrients:
	• minerals, for example:
	  • Calcium
	  • Magnesium
	  • Sodium.

	• vitamins, for example:
	  • fat soluble
	  • Vitamin A – retinol
	  • Vitamin D – Calciferol
	  • water soluble
	  • B Vitamins (Thiamin, Riboflavin, Niacin)
	  • Folate.
	
	Water
	
	Learners should know the chemical terms and models for nutrients and water.

1.1.2
The functions of nutrients in the human body
	Learners must understand the functions of nutrients in the human body, including:
	
	• growth and development
	• production of energy
	• regulate metabolism
	• digestion of nutrients.
	
	Learners should understand the functions of each type of nutrient specified in 1.1.1 and be aware of their complementary actions.
	
	Learners need to understand how different nutrients are digested and absorbed into the blood stream, for example:
	• carbohydrates:
	  • mouth - digestion begins with salivary amylase, breaking down starch into smaller sugars.
	  • small intestine - pancreatic amylase continues starch breakdown.
	  • absorption - monosaccharides are absorbed into the bloodstream through the intestinal lining and transported to the liver.

1.1.3 Classify nutrients in food	Learners should understand classifications of nutrients within food, including: • food group • biological value • glycemic index • nutrient density • complementary actions of nutrients. Learners should understand the main and secondary sources of all nutrients and be able to classify nutrients. Learners should be aware of resources available to support an understanding of what nutrients are in ingredients and therefore the nutrient value of dishes, for example: • computer programmes • food labels

	• mobile Apps • recipes • websites. Learners should be able to calculate the nutritional value within a product based on the nutrients given and resources available.
1.1.4 The impact of food production methods on nutritional value	Learners should understand food production methods and the impact that each method can have on the nutritional value of foods, including: Cooking methods, for example: • boiling • steaming • roasting • deep fat frying • air frying. Packaging/storage methods, for example: • Aseptic Food Processing and Packaging (AFP) • cold store • vacuum packing. Preservation methods, for example: • bottling • canning • drying • freezing • jamming / chutney making • pickling • salting • UHT. Fortification, for example: • breakfast cereals – B vitamins • vitamins A and D in margarine • white bread – calcium, iron, and B vitamins • yogurt / vegetable fat spreads - sterols and stanols.

1.2 Understand the relationship between nutrients and the human body

In this topic learners will gain knowledge and understanding of the following areas:

1.2.1 Characteristics of unsatisfactory nutritional intake

1.2.2 Nutritional needs of specific groups

1.2.3 How different situations affect nutritional needs

Content

Section	Amplification
1.2.1 Characteristics of unsatisfactory nutritional intake	Learners must understand current characteristics of unsatisfactory nutritional intake: Unsatisfactory nutritional intake categories, including: • nutritional deficiencies • nutritional excesses. Classification of characteristics, including: • non-visible characteristics • visible characteristics. Learners must understand the possible consequences of unsatisfactory nutritional intake, including specific causes, for example: • anaemia • CHD • CVD • dehydration • dental problems • diabetes • digestion disorders- diverticular disease, osteoporosis • mental health issues • obesity • rickets • skin conditions.

1.2.2
Nutritional needs of specific groups
	Learners must understand the nutritional requirements of different life stages, including:
	
	• infancy – neonate and up to one year old
	• toddler – one to three years
	• early childhood – three to eight years old
	• middle childhood – nine to eleven years old
	• adolescence – twelve to eighteen years old
	• early Adulthood – nineteen to thirty-five years old
	• middle Adulthood – thirty-six to fifty years old
	• late adulthood – fifty-one to sixty-five years old
	• eldership – over sixty-five years old
	• this may also include other life stages, such as:
	  • pre/post-natal
	  • pre/post-menopausal.
	
	Learners should understand medical conditions that may be associated with different life stages and how medical conditions affect nutritional intake and food choices, for example:
	• allergies
	• cardiovascular disease (CVD)
	• coeliac disease
	• high blood pressure
	• hypercholesterolemia
	• intolerances, such as lactose intolerance
	• obesity
	• Type 1/Type 2 Diabetes.
	
	Learners should understand how culture affects nutritional intake and food choices, for example:
	• eating patterns
	• lifestyle choices
	• religious beliefs
	• vegans/vegetarians/lacto vegetarians.
	
	Learners should know the support available for nutritional intake requirements, for example:
	• Government guidelines, for example Healthy Eating Guidance
	• NHS recommendations, for example the Eatwell Guide.

1.2.3
How different situations affect nutritional needs
	Learners must understand how different situations affect nutritional needs, including:
	
	• different environments, for example:
	  • workplace, for example:
	  • sedentary or physical work
	  • work based, home based or hybrid working
	  • home situation, for example urban vs rural areas
	  • holiday
	  • temperature
	  • care setting , for example:
	  • looked after by parents
	  • sheltered accommodation
	  • hospital/hospice
	  • assisted living facility.
	
	• physical activity level, for example:
	  • type of work undertaken (manual labour, sedentary work)
	  • leisure activity
	  • exercise.
	
	• economic situation, for example
	  • food choice due to income/food poverty
	  • availability of food
	  • availability of facilities to prepare meals.

1.3 Be able to plan nutritional requirements	
In this topic learners will gain knowledge and understanding of the following areas: 1.3.1 Planning nutritional programmes	
Content	
Section	**Amplification**

1.3.1
Planning nutritional programmes
	The learner should be able to plan nutritional programmes for specific dietary needs, including:
	
	Objective setting, for example:
	• target and goal setting, for example:
	  • athletic performance
	  • manage a health-related problem
	  • manage food allergies or intolerances
	  • support pregnancy
	  • weight gain
	  • weight loss
	  • weight maintenance
	• Timescales, for example: a week, month, year.
	
	Nutritional Guidance, for example:
	• calorie specifications such as kilojoules
	• current nutritional guidance eg. Eatwell guide, DASH diet for hypertension, FODMAP diet for irritable bowel syndrome (IBS)
	• eating patterns
	• food and meal adaptations
	• macronutrient recommendations.
	
	Monitoring nutritional programmes, for example:
	• revisiting goals
	• use of software / digital technology / devices to track progress
	• feedback
	• adaptations to programme.
	
	Reviewing effectiveness of programmes, for example:
	• alignment with objectives set at the start of a programme
	• effectiveness of nutritional guidance, for example:
	  • cost of food intake
	  • time
	  • motivation of individual
	  • personal preferences of individual
	• effectiveness of monitoring
	• impact of adaptations made to programme.

Unit 2

Unit title	Developing practical food production skills
GLH	90
Mandatory/Optional	Mandatory
Context	Whether cooking for two people at home, 100 clients at a conference or 1000 people in a hospital, any chef or cook will make sure they have a plan of action, which fully addresses health and safety factors to ensure any food prepared is safe to eat, while ensuring that the finished product is fit for it's intended audience. They will also make sure they have all of the commodities and equipment needed and enough time to prepare and cook the dishes on the menu. You will develop complex skills for preparing, cooking and presenting nutritious dishes that meet specific client needs.
Overview of unit	The purpose of this unit is to: Plan, prepare, cook and present food items to meet the needs of a specific target audience, using appropriate level 3 practical skills and techniques.
Topics	In this topic learners will gain knowledge, understanding and skills in the following areas: 2.1 Factors affecting food choice 2.2 Planning, preparation and cooking techniques 2.3 Evaluating food production
Summary of assessment	Non-examination assessment Marked by the centre and moderated by WJEC

2.1 Factors affecting food choice

In this topic learners will gain knowledge, understanding and skills in the following areas:
2.1.1 The factors that influence food ingredient choice

Content

Section	Amplification

2.1.1
The factors that influence food ingredient choice
	Learners should understand factors that can influence food ingredient choice, when planning and creating products, including:
	• cost
	• cultural influences
	• environmental
	• ethical
	• influence of media
	• food availability and seasonality
	• levels of physical activity
	• lifestyles
	• nutritional needs over the life stages
	• personal preferences
	• religious beliefs
	• seasonality
	• sensory qualities
	• shelf life of food
	• socio-economic influences
	• sources of foods, for example locally sourced
	• specific dietary needs or nutritional deficiencies.
	
	Learners should be aware of emerging trends related to factors that influence food ingredient choice including:
	
	• plant-based alternatives, for example:
	  ◦ meat substitutes
	  ◦ dairy alternatives
	• functional foods, for example:
	  ◦ foods with added health benefits like probiotics or prebiotics
	• sustainable sourcing and packaging
	• personalised nutrition, for example:
	  ◦ tailoring diets to individual genetic profiles
	  ◦ tailoring diets for any health conditions such as diabetes, cardiovascular disease.

2.2 Planning, preparation and cooking techniques

In this topic learners will gain knowledge, understanding and skills in the following areas:

2.2.1 Food production process

2.2.2 Planning to create food items

2.2.3 Skills and techniques within food production

2.2.4 Hygiene practices and procedures within food production

Content

Section	Amplification

2.2.1
Food production process
	Learners should understand the stages of food production from initial idea to completion, including:
	
	• product brief, for example:
	  • what the product/food item is
	  • reason for development
	  • intended audience and market
	  • final product/food item cost including possible sale cost
	• idea generation, for example:
	  • market research for developments and key market trends
	  • consumer trends
	  • ingredient and packaging cost
	• recipe development and testing
	  • create recipe
	  • test recipe
	  • any amendments and reasons for amends
	• feasibility checks, for example:
	  • cost and feasibility of ingredients
	  • cost and feasibility of any required packaging and/or presentation
	  • production times
	• customer feedback, for example:
	  • taste panel review
	  • cost review
	• product/outcome review, for example:
	  • amendment of any ingredients based on feedback.
	
	Learners should understand why ingredients may need to be modified, for example:
	• allergenic ingredients
	• cost
	• seasonality
	• improve taste and texture after taste test
	• ingredient functionality based on trial batch, for example:
	  • more bicarb required due to product not rising.

2.2.2 Planning to create food items	Learners should be able to develop a food production plan, including an order of work for creating food items, for example: • ingredients and quantities • portion size • nutritional information (per serving) • equipment • timings (including contingency plans) • method for creating food items • food hygiene and safety • storage • sequencing/dovetailing • quality points • waste management • presentation requirements, if applicable • packaging requirements, if applicable • cooking requirements for end user, if applicable.
2.2.3 Skills and techniques within food production	Learners should be able to demonstrate the skills and techniques to prepare and create food, including: Preparation: • blending* • beating* • creaming** • crimping*** • dehydrating** • folding ** • grating* • hydrating* • juicing* • kneading** • laminating (pastry)*** • marinating* • mashing* • measuring** • melting* • melting using bain-marie*** • mixing* • piping*** • proving* • puréeing** • rolling** • rub-in** • shaping*** • shredding* • sieving* • skinning** • tenderising* • toasting(nuts/seeds)** • weighing**

	• whisking(aeration)*** • zesting*. Knife techniques: • baton** • brunoise*** • chiffonade** • chopping* • deboning*** • deseeding** • dicing** • filleting*** • julienne*** • mincing*** • peeling* • segmenting*** • slicing** • spatchcock** • trimming*. Cooking techniques: • basting* • baking** • baking blind*** • blanching** • boiling* • braising** • caramelising*** • chilling* • cooling* • deep fat frying*** • deglazing** • dehydrating* • emulsifying*** • foaming *** • freezing* • frying** • griddling** • grilling* • pickling** • poaching*** • reduction** • roasting** • sautéing** • setting** • skimming* • steaming** • stir-frying** • tempering*** • toasting*

	• water-bath (sous-vide) **. Levels of complexity defined below: ***advanced **medium *basic Learners should understand the purpose of the skills and techniques within food production. Learners should be able to present food in a suitable manner, reflecting the audience and purpose, for example: • piping • carving • shaping • moulding • glazing • landscape technique • use of organic materials, for example wood plating device • Nordic technique • height creation • plating technique • colour and texture contrast.
2.2.4 Hygiene practices and procedures within food production	Learners should be able to demonstrate food hygiene, safety practices and procedures when creating products, including: • maintaining personal hygiene (handwashing techniques) • following safe working practices • adhering to correct food safety practices and procedures • ensuring correct storage and temperature control techniques • cross-contamination prevention • cleaning and sanitising procedures. Learners should be aware of guidelines for: • cooking and reheating food • temperature control of food • use by / best before dates.

2.3 Evaluating food production

In this topic learners will gain knowledge, understanding and skills in the following areas:

2.3.1 Evaluating food production processes

2.3.2 Evaluating food items and outcomes

Content

Section	Amplification
2.3.1 Evaluating food production processes	Learners should be able to evaluate the process of creating products/food items, including: • effectiveness of plans • preparation and cooking techniques used • time management • health, safety and hygiene • any adaptations required during creation of dishes.
2.3.2 Evaluating food items and outcomes	Learners should be able to evaluate the success of the product/food item using the following factors: • recipe selection • use of ingredients and quantities • preparation and cooking techniques used • nutritional value • presentation and serving • taste • suitability for audience and purpose. Learners should understand sources of feedback, for example: • taste panels • sensory testing • peer review • target audience reviews • self-reflection • expert feedback.

Unit 3

Unit title	**Principles of food hygiene and food safety in Food Production**
GLH	90
Mandatory/Optional	Mandatory
Context	Why should we follow storage recommendations on food products? Why do menus need to highlight products containing nuts? Why should vegetarian dishes be prepared away from those containing meat? Why are temperature probes used in the food industry? How can you be sure the food you eat is safe? Food needs to be stored, handled, prepared and cooked correctly to ensure its consumption does not affect people's health. For some people, their health is affected because they have food intolerances or allergies, but the health of all people can be affected if they are subjected to food poisoning. Everyone working in the food industry has a responsibility to minimise the risks of causing a food borne illness. Food safety is one of today's major health issues and there are many roles within the food industry related to food safety. Many food scientists work for the Environmental Health departments of local authorities as food inspectors. Food inspectors ensure businesses produce and serve food that is safe to eat; this would include a whole range of businesses from a large bakery to a stall selling pasties at a local festival. Food inspectors also ensure that descriptions of food (on menus for example) do not mislead customers and help to minimise the risks to ill health, for example, noting where certain dishes contain nuts. In this unit you will learn about food safety, how micro-organisms can affect food safety, how some foods can cause ill health in people that have intolerances or allergies and what controls need to be in place to minimise the risks of food causing ill health.
Overview of unit	The purpose of this unit is to: Develop an understanding of hazards and risks in relation to the storage, preparation, cooking and serving of food items in different environments and the control measures needed to minimise these risks. From this understanding, learners will be able to explain the control measures that need to be in place, in different environments, to ensure that food is safe to eat.
Topics	In this topic learners will gain knowledge, understanding and skills in the following areas: 3.1 Understand how micro-organisms affect food safety 3.2 Understand how food can cause ill health 3.3 Understand how food safety is managed in different situations

Summary of assessment	This unit is externally assessed through a written examination available in May/June each year. The external assessment will: • be set and marked by WJEC • consist of a 1 hour 30 minutes paper • assess content from each topic in the unit each series • include 80 marks • include a balance of short and extended answer questions, based on stimulus material and applied contexts • only use the command words listed in the Assessment Guide • be graded A-E. Each paper will consist of three sections (Section A, B and C). • Section A will consist of short answer questions • Section B will consist of extended answer questions • Section C will be based on a case study. All questions in all sections will be compulsory.

3.1 Understand how micro organisms affect food safety

In this topic learners will gain knowledge and understanding of the following areas:

3.1.1 Properties of micro-organisms

3.1.2 How changing conditions affect growth of micro-organisms in different environments

3.1.3 How micro-organisms affect food quality

3.1.4 How preservation methods prevent the growth of micro-organisms

Content

Section	Amplification

3.1.1
Properties of micro-organisms
	Learners should know each type of micro-organism, including the key properties of each type:
	
	Micro-organisms, including:
	• bacteria, for example:
	  • Campylobacter
	  • Salmonella
	  • E-Coli
	  • Listeria
	• viruses, for example:
	  • Norovirus
	  • Rotavirus
	  • Hepatitis A
	• fungi, for example:
	  • Microscopic fungi – food mould.
	
	Properties, including:
	• size
	• cellular structure
	• pathogenicity
	• growth/reproduction.

3.1.2 How changing conditions affect growth of micro-organisms in different environments	Learners should understand how changing conditions affect growth of different micro-organisms in different environments: Conditions, for example: • temperature • pH • oxygen • water • nutrients. Environments, for example: • preparation • cooking • serving • storing • transporting • outdoors • temporary.
3.1.3 How micro-organisms affect food quality	Learners should understand the negative and positive effects that micro-organisms can have on food quality, including: • appearance • texture • smell/aroma • taste • non-visible effects • nutritional content. Learners should understand how those changes take place.
3.1.4 How preservation methods prevent the growth of micro-organisms	Learners should understand how preservation methods can impact growth of micro-organisms, for example: • freezing • jam making • canning • fermenting • smoking • drying • pickling • salting • additives.

3.2 How food can cause ill health

In this topic learners will gain knowledge and understanding of the following areas:

3.2.1 The physiology and symptoms of food intolerance

3.2.2 The physiology and symptoms of food allergies

3.2.3 The physiology and symptoms of food poisoning

Content

Section	Amplification
3.2.1 The physiology and symptoms of food intolerances	Learners should understand types of food intolerance and their physiological causes, including: • lactose intolerance • wheat intolerance • chemicals in foods, for example: caffeine, salicylates monosodium glutamate, and naturally occurring chemicals like histamines. Learners should know symptoms related to food intolerances including how symptoms are detected and outcomes, including: • visible symptoms • non-visible symptoms • length of time until symptoms appear • duration of symptoms • level of contagion.
3.2.2 The physiology and symptoms of food allergies	Learners should understand types of food allergies and their physiological causes, particularly in relation to immunological response, for example: • celery • cereals containing gluten • crustations • eggs • fish • lupins • milk • molluscs • mustard • peanuts • sesame • soybeans • sulphur dioxide and sulphites • tree nuts. Learners should know symptoms related to food allergies, how symptoms are detected and outcomes, including: • visible symptoms

	• non-visible symptoms • length of time until symptoms appear. • duration of symptoms • level of contagion • level of severity.
3.2.3 The physiology and symptoms of food poisoning	Learners should understand the physiological causes of food poisoning and the associated symptoms, including: • foods affected and how to reduce the risk of food poisoning • causative bacteria and viruses • physiological effects on the body system. Learners should know symptoms related to food poisoning, how symptoms are detected and outcomes, including: • visible symptoms • non-visible symptoms • length of time until symptoms appear • duration of symptoms • level of contagion.

3.3 Understand how food safety is managed in different situations

In this topic learners will gain knowledge and understanding of the following areas:

3.3.1 Food safety hazards in different environments.

3.3.2 Risk to food safety in different environments.

3.3.3 Control measures used to minimise food safety risks.

Content

Section	Amplification

3.3.1
Food safety hazards in different environments
	Learners should understand the potential food safety hazards in a range of environments, for example:
	• preparation
	• cooking
	• serving
	• storing
	• transporting
	• outdoors
	• temporary
	• contamination, for example:
	  • cross contamination
	  • physical
	  • chemical.

3.3.2 Risk to food safety in different environments	Learners should understand the potential food safety risks in a range of environments, including: • likelihood of hazard • potential to harm • individuals likely to be affected • foods likely to be affected. Learners should consider the risks associated with the food safety hazards in different environments 3.3.1.

3.3.3
Control measures used to minimise food safety risks
	Learners should understand the possible control measures to reduce hazards and their potential risks, for example:
	• good hygiene practices including personal hygiene and food hygiene
	• preventing cross contamination
	• disposal of waste
	• following food safety legislation, for example:
	  • Food Safety Act 1990
	  • General Food Law Regulations 2004
	  • The Food Safety and Hygiene Regulations 2013
	  • Natasha's Law 2021
	  • Hazard Analysis and Critical Control Point (HACCP)
	  • effective cleaning and the need for cleaning schedules
	• effective food storage and packaging, for example:
	  • colour coded date labels
	  • vacuum sealed packaging.

Unit 4

Unit title	Experimenting to solve food production problems
GLH	90
Mandatory/Optional	Optional
Context	Why does ice cream freeze? How do I stop cream curdling? How do I make cakes rise? Why do salad dressings separate? Making use of the way certain foods change in order to create new dishes has been the foundation of food development. Food producers and chefs develop new and interesting dishes by experimenting with the properties of food. Today, even greater understanding of the scientific principles of food provides chefs with a range of options as they come up with more and more innovative dishes and ideas. Individuals, chefs and employees within the food industry can now produce dishes that do not use standard ingredients or methods of production, but provide the consumer with interesting and exciting food choices.
Overview of unit	The aim of this unit is for learners to use their understanding of the properties of food in order to plan and carry out experiments. The results of the experiments would be used to propose options to solve food production problems. The unit covers a wide range of topics, from the scientific properties of food to practical problem-solving techniques, ensuring a holistic understanding of the subject. The emphasis on real-world problems and practical solutions makes the content relevant and engaging for learners. The inclusion of evaluation sections for both the food production process and the final product encourages critical thinking and continuous improvement.
Topics	In this topic learners will gain knowledge, understanding and skills in the following areas: 4.1 Understand the scientific properties of food 4.2 Solving food production problems 4.3 Scientifically investigate changes to food
Summary of assessment	Non-examination assessment Marked by the centre and moderated by WJEC

4.1 Understand the scientific properties of food

In this topic learners will gain knowledge, understanding and skills in the following areas:

4.1.1 How food properties can be changed

4.1.2 Variables that affect physical properties of food

Content

Section	Amplification
4.1.1 How food properties can be changed	Learners should understand the scientific properties of food and how these are changed through the processes, including: • aeration • caramelisation • coagulation • colloids • crystallisation • denaturation • dextrinisation • emulsification • gelatinisation • Maillard reaction • sols-gels.

4.1.2
Variables that affect physical properties of food
	Learners should understand the effect of variables on properties of food, including:
	• temperature
	• chemical reactions, for example:
	  • fermentation
	  • oxidation
	• manipulation, for example:
	  • stirring
	  • beating
	  • whisking
	  • kneading
	  • whipping.

4.2 Solving food production problems
In this topic learners will gain knowledge and understanding of the following areas: 4.2.1 Food production situations 4.2.2 Practical options to solve food production problems

Content	
Section	**Amplification**

4.2.1
Food production situations
	Learners should understand a range of problems in food production, for example:
	• lack of ingredients, for example:
	  • substitute ingredients having to be used
	  • food shortages
	  • importing ingredients from other countries
	• lack of cooking facilities
	• environmental conditions, for example:
	  • equipment malfunction
	  • change in staffing/personnel involved
	• customer needs, for example:
	  • dietary requirements, such as:
	  • religious restrictions, for example Halal and Kosher
	  • gluten free
	  • vegan
	  • vegetarian
	  • lacto vegetarian
	  • low carbohydrate
	  • high protein
	  • sugar free
	• cost
	• extended shelf life
	• ease to transport
	• changes in portion sizes.

4.2.2
Practical options to solve food production problems
	Learners should understand practical options to solve food production problems, such as:
	• consider traditional recipes and modern methods used by innovative chefs
	• consider new technologies and food substitutes, for example:
	  • meat alternatives such as Jack Fruit and Quorn.
	
	Learners should understand the different types and variation of ingredients that could be used to solve the food production problems, for example:
	
	• ingredients: variations that could be used to change the outcome of a product, for example:
	  • applesauce for oil in baking
	  • flaxseed for eggs
	  • aquafaba (chickpea water) for egg whites
	  • mashed banana or avocado for butter
	  • Greek yogurt for sour cream or mayonnaise
	• change in quantities and ratio of ingredients, for example:
	  • flour to liquid ratio
	  • sugar to fat ratio
	  • spice and seasoning levels
	  • acid to base ratio
	• new production methods, for example:
	  • 3D printing
	  • cellular agriculture.

4.3 Scientifically investigate changes to food

In this topic learners will gain knowledge, understanding and skills in the following areas:

4.3.1 Scientific investigation methods

4.3.2 The stages of scientific investigation**s**

4.3.3 Success criteria for scientific investigations

4.3.4 Carrying out scientific investigations

4.3.5 Data Analysis

4.3.6 Present findings

Content

Section	Amplification
4.3.1 Scientific investigation methods	Learners should understand types of scientific investigation and any appropriate data collection methods, including: Scientific investigation types: • descriptive investigation, for example: • comparative investigation • experimental investigation. Data collection methods: • real world observations • laboratory experiment • mixed method approach. Learners should understand how each scientific investigation types and data collection methods should be suitably used in a range of practical settings.
4.3.2 The stages of scientific investigations	Learners should understand the stages of the scientific investigation process, for example: • define investigation question • setting success criteria with an appropriate timeline • make prediction/form a hypothesis • plan appropriate and relevant investigation methods • ethics in investigations • setting sample approach and size • gather data • analyse data to draw conclusions • report findings.

4.3.3 Success criteria for scientific investigations	Learners should understand how to write success criteria that are clear, measurable and appropriate to the scientific investigation, for example: • setting a hypothesis for the investigation • outlining the resources required for the investigation and any required timeframes • determine the investigation method and any data collection tools required • determine the variables to be investigated • identifying results which would confirm or reject the hypothesis.
4.3.4 Carrying out scientific investigations	Learners should be able to devise data collection tools to allow for consistent and clear documentation of research evidence, for example: • accessing already tested data collection tools • creating documentation to capture investigation raw data • piloting data collection tool and documentation. Learners should be able to carry out scientific investigations using a suitable investigation method, utilising appropriate data collection and documentation tools to record accurate data. Learners should understand how investigations can be conducted ethically.

4.3.5
Data Analysis
	Students should be able to carry out data analysis using a range of methods, for example:
	• content analysis
	• thematic analysis
	• qualitative data analysis for example:
	  • sensory evaluation
	• descriptive statistic, for example:
	  • mean
	  • median
	  • mode
	  • standard deviation
	• Inferential Statistics, for example:
	  • T-Tests
	  • ANOVA
	  • correlation analysis
	  • regression analysis.
	
	Learners should understand the suitability of data analysis methods in a range of practical settings.

	Learners should understand methods of presenting data, for example: • charts • graphs • raw data files • data analysis files and calculations. Learners should be able to use data analysis findings to support judgements regarding the outcome of their scientific investigation, for example: • how it may support the acceptance or rejection of the hypothesis • how it may support determining the most effective approach, for example: • change of ingredient within a product • determine if there was no significant difference between options or variables within an investigation.
4.3.6 Present findings	Learners should be able to present findings for a range of audiences, for example: • academic audiences (teachers, professors, peers) • industry professionals (food scientists, chefs, product developers, food safety inspectors) • consumers (general public, potential customers, food bloggers, journalists) • government agencies and regulation (food standards agencies, public health officials, policy makers). Learners should understand suitable presentation methods for each audience, for example: • infographics • research reports • presentations • news articles • blogs.

Unit 5

Unit title	Current Issues in Food Science and Nutrition
GLH	90
Mandatory / Optional	Optional
Context	Are mass produced ready meals meeting the needs of individuals? Why is catering at events such as music festivals and sporting events usually so limited and unhealthy? Why are contract caterers being used for events such as funeral teas, buffets at 18th birthday parties when years ago, the families would have done this themselves? Should cooking skills be compulsory in schools? How much extra will consumers pay for organic food? How important is a sustainable, equitable and affordable diet? How much is packaging affecting consumer buying behaviour? Are diet trends effective? Is food labelling misleading? How is the media influencing our food choices? What are current food trends? Food processing and production, catering, hospitality organisations and retailers have experienced significant changes in consumer choice and expectations and this has led to them continually responding to demands and changes in the environment. Food scientists, home economists, market researchers and public health analysts are examples of those that would be involved in carrying out research into current issues on behalf of their employers and public policy makers.
Overview of unit	The unit effectively covers the key aspects of research in food science and nutrition, from understanding current issues to conducting research and evaluating findings. The sections are clearly defined and organised, making it easy for learners to follow the research process from start to finish. The unit addresses contemporary issues in the field, providing learners with valuable insights into the challenges and opportunities facing the food industry. The emphasis on practical research skills, data analysis, and presentation techniques prepares learners for real-world applications in the food industry or further academic study.

Topics	In this topic learners will gain knowledge, understanding and skills in the following areas: 5.1 Carry out research into a contemporary issue in food science and nutrition 5.2 The use of research in food science and nutrition 5.3 Evaluate own research into current issues in relation to food science and nutrition
Summary of assessment	Non-examination assessment Marked by the centre and moderated by WJEC

5.1 Carry out research into a contemporary issue in food science and nutrition

In this topic learners will gain knowledge and understanding of the following areas:
5.1.1 Current issues in food science and nutrition

Content

Section	Amplification

5.1.1
Current issues in food science and nutrition
	Learners should be aware of current issues in food science and nutrition related to:
	• sustainability, for example climate change, reducing food miles
	• health, for example increase in health-related issues such as the rise of non-communicable diseases (NCDs)
	• diet choices, for example:
	  • high protein, low carb diets
	  • fasting
	  • fad diets
	• the economy, for example:
	  • inflation and the cost on affordable food
	• technology, for example:
	  • new equipment to cook food
	  • new sources of ingredients and macro/micronutrients such as plant-based proteins
	• media, for example:
	  • marketing of food choices
	  • celebrity endorsements
	  • ethical considerations of promoting unhealthy products
	• social factors for example:
	  • income
	  • education
	  • cultural background
	• ethical considerations, for example:
	  • animal welfare
	  • fair trade
	  • emerging food technologies
	  • sustainability.
	
	Examples of current issues include:
	• reducing the environmental impact of food production
	• reducing food waste
	• tackling obesity and diet-related diseases
	• improving access to healthy food
	• enhancing transparency in food labelling and food fraud
	• the gut microbiome
	• personalized nutrition.

	Learners should know key stakeholders who may have an interest in research in food science and nutrition, for example:
	• food manufacturers
	• food processing organisations
	• hospitality and catering organisations
	• retailers
	• logistics operators
	• voluntary sector
	• media
	• government departments
	• consumers
	• health professionals, for example:
	  • NHS Wales
	  • NHS England.

5.2 The use of research in food science and nutrition

In this topic learners will gain knowledge and understanding of the following areas:

5.2.1 Research methods in food science and nutrition

5.2.2 Stages of research

5.2.3 Carrying out research

5.2.4 Data Analysis

5.2.5 Present findings

Content

Section	Amplification
5.2.1 Research methods in food science and nutrition	Learners should know the difference between primary and secondary research, and qualitative and quantitative data. Learners should understand different research methodologies and the strengths and limitation of methods, for example: • experiments • case studies • meta-analysis • focus groups • formal and informal observations • literature reviews, including reviews of books, articles, case studies, journals, websites, government publications • questionnaires/surveys • structured and unstructured interviews • the use of statistical databases/published statistics. Learners should understand the credibility, reliability and validity of sources of information that may be gathered through a range of methods and determine the suitability of methods in a range of practical settings.
5.2.2 Stages of research	Learners should understand the stages of research, for example: • identify a clear project proposal/rationale that is relevant to the sector • set appropriate and realistic aims and objectives (including research question) with a suitable timeline • setting hypothesis/research question • plan appropriate and relevant research methods, considering ethics • define priorities and success criteria • literature review • setting sample approach and size • gather data • analyse data to draw conclusions • report findings.

5.2.3 Carrying out research	Learners should be able to devise data collection tools to allow for consistent and clear documentation of research evidence, for example: • using already tested data collection tools • creating documentation to capture investigation raw data • piloting data collection tools and documentation. Learners should be able to carry out research using a suitable research method, utilising appropriate data collection to record accurate data. Learners should understand how research can be conducted ethically, including: • informed consent • participant confidentiality • minimising harm.

5.2.4
Data Analysis
	Learners should be able to carry out data analysis using a range of methods, for example:
	• data cleaning and preparation
	• content analysis
	• thematic analysis
	• descriptive statistic, for example:
	  • mean
	  • median
	  • mode
	  • Standard Deviation
	• inferential statistics, for example:
	  • T-Tests
	  • ANOVA
	  • correlation analysis
	  • regression analysis
	  • data interpretation.
	Learners should understand the suitability of data analysis methods in a range of practical settings.
	
	Learners should understand methods of presenting data to a range of audiences, for example:
	• charts
	• graphs
	• raw data files
	• data analysis files and calculations.

5.2.5 Present findings	Learners should be able to present findings for a range of audiences, for example: • academic audiences (teachers, professors, peers) • industry professionals (food scientists, chefs, product developers, food safety inspectors) • consumers (general public, potential customers, food bloggers, journalists) • government agencies and regulation (food standards agencies, public health officials, policy makers). Learners should understand suitable presentation methods for each audience, for example: • infographics • research reports • presentations • news articles • blogs.

5.3 Evaluate own research into current issues in relation to food science and nutrition	
In this topic learners will gain knowledge and understanding of the following areas: 5.3.1 Reflecting on research methodologies and practices	
Content	
Section	**Amplification**

5.3.1
Reflecting on research methodologies and practices
	Learners should understand models of reflection, for example:
	• Kolb's cycle of reflection
	• Gibb's reflective cycle
	• Rolfe's reflective model.
	
	Learners should be able to apply models of reflection to their research practice and experiences, for example:
	• reflecting on outcomes, including:
	  • did the research validate or reject the hypothesis?
	  • were the results surprising or expected?
	  • did the research raise any new questions or ideas?
	• methods, including:
	  • were the methods suitable?
	  • was the data collection tool appropriate?
	  • were there any challenges in implementing the research methods?
	  • could the data collection have been improved?
	• analysis, including:
	  • were there any biases in the data analysis?
	  • could different analysis techniques have yielded different results?
	• organisation, including:
	  • was the research planned effectively?
	  • were timescales realistic and achieved?
	  • were there any unexpected delays or obstacles?
	
	Learners should be able to use reflection to inform future practice, for example:
	• identifying personal development opportunities
	• determining future research areas
	• recommend actions to overcome development areas
	• offer improvements to own research to increase reliability, validity or expand scope of research.

5. Assessment

5.1. Assessment objectives

This qualification has four assessment objectives:

AO1 Demonstration of knowledge of content from across the specification.
AO2 Application of knowledge and understanding.
AO3 Synthesis and evaluation.
AO4 Selection, use and application of practical skills and techniques.

The tables below show the weighting of each assessment objective for each unit and for the qualification as a whole.

Unit	Total Raw Marks	AO	Marks	Weighting %
Unit 1: Nutritional needs across the life stages	80	AO1	18	22.5%
		AO2	32	40%
		AO3	30	37.5%
Unit 2: Developing practical food production skills	100	AO2	32	32%
		AO3	28	28%
		AO4	40	40%
Unit 3: Principles of food hygiene and food safety in food production	80	AO1	25	31.25%
		AO2	37	46.25%
		AO3	18	22.5%
Unit 4: Experimenting to solve food production problems	100	AO2	30	30%
		AO3	30	30%
		AO4	40	40%
Unit 5: Current issues in food science	100	AO2	30	30%
		AO3	30	30%
		AO4	40	40%

	AO1	AO2	AO3	AO4
Qualification weighting	12%	36.4%	29.4%	22.2%

5.2. External assessment

The following units are externally assessed:

- Unit 1 – Nutritional needs across the life stages (first assessment in 2027)
- Unit 3 – Principles of food hygiene and food safety in food production (first assessment in 2028)

Full details of the format of the assessment can be found in the relevant unit and sample assessment materials are available from the subject page of the WJEC website (wjec.co.uk).

For external assessments, centres must follow the Joint Council for Qualifications (JCQ) *Instructions for Conducting Examinations*, a copy of which can be accessed from the JCQ website. (www.jcq.org.uk).

5.3. Internal assessment

The following units are internally assessed and submitted for external moderation:

- Unit 2 – Developing practical food production skills (first submission in 2027)
- Unit 4 – Experimenting to solve food production problems (first submission in 2028)
- Unit 5 – Current issues in food science and nutrition (first submission in 2028)

Full details of the format of the assessment can be found in the relevant unit, and sample assessment materials are available from the subject page of the WJEC website (wjec.co.uk).

Assessment Packs are available on the WJEC Portal (Portal by WJEC) for centres to download from the first Monday in January each year, and have until May for all learners to sit assessments and upload marks to WJEC. This change in release of assessment materials will help ensure security of materials, while still ensuring there is a suitable timescale for centres to prepare and plan assessment sessions for each cohort, before the deadline for marking.

Centres have flexibility in when they schedule internal assessment but must ensure that they are using the correct packs for the series in which they intend to enter the work for moderation. Candidates must **not** have access to the Candidate Packs until they start their assessment which should be after all the teaching and learning for the unit has been completed.

For internal assessments, centres must follow the procedures for managing non-examination assessments published in the JCQ Instructions for conducting non-examination assessments, a copy of which can be accessed from the JCQ website: Non-Examination Assessments - JCQ Joint Council for Qualifications. Centres are required to have in place a non-examination assessment policy for WJEC applied qualifications (which can be part of a centre's broader NEA policy).

5.4. Managing suspected malpractice

Information regarding malpractice is available in our **Malpractice, A Guide for Centres** document.

All cases of suspected or actual malpractice must be reported to WJEC. If candidates commit malpractice, they may be penalised or disqualified from the examinations.

In all cases of malpractice, centres are advised to consult the JCQ booklet **Suspected Malpractice: Policies and Procedures.**

5.5. Preventing candidate malpractice

Candidates must not:

- submit work which is not their own
- make available their work to other candidates through any medium
- allow other candidates to have access to their own independently sourced material
- assist other candidates to produce work
- use books, the internet or other sources without acknowledgement or attribution
- submit work that has been word processed by a third party without acknowledgement
- include inappropriate, offensive or obscene material.

Candidates are not prohibited from lending books or other resources to one another, but they must not plagiarise others' research.

Candidates must not post their work on social media. They should be made aware of the JCQ document Information for candidates – Guidelines when referring to examinations/assessments through the Internet – https://www.jcq.org.uk/wp-content/uploads/2021/08/IFC-NE_Assessments_2021_v4.pdfht

Heads of centre and senior leaders must ensure that those members of teaching staff involved in the direct supervision of candidates producing Non-examination assessments are aware of the potential for malpractice.

Teaching staff must be reminded that failure to report allegations of malpractice or suspected malpractice constitutes malpractice itself.

Teaching staff must:

- be vigilant in relation to candidate malpractice and be fully aware of the published regulations
- report any alleged, suspected or actual incidents of malpractice to the senior leadership team or directly to WJEC.

6. Delivering the qualification

6.1. Centre approval

In order to offer our qualifications, centres must have WJEC centre approval. The approval process involves completion of the relevant application form(s) and an assessment of the ability of the centre to meet WJEC and relevant JCQ requirements.

If your centre wishes to submit entries and is not yet registered as a centre, please contact the Centre Support department at WJEC (centres@WJEC.co.uk) for an application form. The completed form must be returned to WJEC no less than five months prior to the relevant entry deadline.

WJEC approved centres must adhere to the **General Conditions for WJEC Centres** and the appropriate **JCQ regulations.** All WJEC approved centres with a national centre number (NCN) must complete the **annual declaration sent by NCN**. Failure to do so will result in suspension of WJEC registration.

6.2. Unit entry

Entry for individual units must be made by submitting the relevant unit codes as indicated below.

		Entry Code	
		English medium	Welsh medium
Unit 1 Nutritional needs across the life stages	External assessment - onscreen	4523UA	4523NA
	External assessment - paper	4523UB	4523NB
Unit 2 Developing practical food production skills	Internal assessment	4523U2	4523N2
Unit 3 Principles of food hygiene and food safety in food production	External assessment - onscreen	4523UC	4523NC
	External assessment - paper	4523UD	4523ND
Unit 4 Experimenting to solve food production problems	Internal assessment	4523U4	4523N4
Unit 5 Current issues in food science and nutrition	Internal assessment	4523U5	4523N5

6.3. Resitting units

Candidates may resit each externally assessed (WJEC marked) unit assessments twice (three attempts in total). The better uniform mark score from the three attempts will be used in calculating the final overall grade.

Candidates may resit each internally assessed (centre marked) unit once (two attempts in total). The better uniform mark score from the two attempts will be used in calculating the final overall grade.

Candidates resitting an assessment cannot re-submit evidence that has been entered previously. If a candidate chooses to resit an assessment, they must undertake a new assessment based on the assessment brief/stimuli released for the series in which the resit takes place. Resits must be completed within the same levels of control as specified for the assessment.

If a candidate has been entered for an assessment but is marked absent (a), the absence does not count as an attempt.

If a candidate is recorded as being awarded '0' marks, then it will be assumed that the evidence generated for assessment was not worthy of credit; this will be counted as an attempt.

When resitting an assessment, provided that the candidate has not exceeded the maximum number of attempts, marks from the other units will be carried forward.

If a candidate exceeds the number of attempts for any of the assessments, they will be required to retake the qualification; this is sometimes referred to as a 'fresh start' (See section 6.5 for more information).

6.4. Qualification entry

Learners will be entered for the qualification when entering for aggregation (cash-in).

Aggregation does not take place automatically; it is necessary to enter the relevant code for aggregation to take place.

	Cash in Code	
	English medium	Welsh medium
Level 3 Alternative Academic Qualification in Food Science and Nutrition (Extended Certificate)	4523QX	4523CX

6.5. Retaking the qualification

If a candidate enters an external (WJEC marked) assessment for a fourth time or an internal (centre marked) assessment for a third time, they must re-enter and retake all assessments.

When retaking a qualification, a candidate may have up to three attempts at each WJEC marked assessment and up to two attempts at each centre marked non-examination assessment. However, no results from units taken prior to the retake can be used in aggregating the new grade(s).

7. Awarding, grading and reporting

7.1. Unit grades

Units within the qualification are awarded on a five-point scale a-e.

Individual units are recorded on a uniform mark scale (UMS) with the following grade equivalences:

	Max	a	b	c	d	e
Unit 1 Nutritional needs across the life stages	100	80	70	60	50	40
Unit 2 Developing practical food production skills	100	80	70	60	50	40
Unit 3 Principles of food hygiene and food safety in food production	100	80	70	60	50	40
Unit 4 Experimenting to solve food production problems	100	80	70	60	50	40
Unit 5 Current issues in food science and nutrition	100	80	70	60	50	40

7.2. Qualification grade

The qualification is awarded on a six-point scale A*-E.

The uniform marks obtained for each unit are added up and the qualification grade is based on this total.

Max	A*	A	B	C	D	E
400	360	320	280	240	200	160

Candidates who do not achieve the minimum uniform marks required to achieve an E will have their achievement recorded as U (unclassified) and will not receive a certificate.

7.3. Post-results services

Following the publication of results for each examination series, WJEC offers a range of post-results services relating to reviews of marking and moderation and access to examination scripts. Information on post-results services can be found on the WJEC website.