

LEVEL 3 FOOD SCIENCE AND NUTRITION

UCAS Points (equivalent to GCE)

- Distinction* : 140 points
- Distinction: 120 points
- Merit: 80 points
- Pass: 40 points

Structure of qualification

WJEC Level 3 Diploma in Food Science and Nutrition				
Unit Number	Unit Title	Structure	Assessment	GLH
1	Meeting Nutritional Needs of Specific Groups	Mandatory	Internal and External	180
2	Ensuring Food is Safe to Eat	Mandatory	External	90
3	Experimenting to Solve Food Production Problems	Optional	Internal	90
4	Current Issues in Food Science and Nutrition	Optional	Internal	90

Learners complete three units: two mandatory and one optional.

The first mandatory unit will enable the learner to demonstrate an understanding of the science of food safety, nutrition and nutritional needs in a wide range of contexts, and through on-going practical sessions, to gain practical skills to produce quality food items to meet the needs of individuals.

The second mandatory unit will allow learners to develop their understanding of the science of food safety and hygiene; essential knowledge for anyone involved in food production in the home or wishing to work in the food industry. Again practical sessions will support the gaining of theoretical knowledge and ensure learning is a tactile experience.

Studying one of the two optional units will allow learners the opportunity to study subjects of particular interest or relevance to them, building on previous learning and experiences.

Unit 1: Meeting nutritional needs of specific groups

- Compulsory unit covered in Yr12
- 90 min exam plus 15 mins reading time. (90 marks)
 - Sec A) Short answers
 - Sec B) Extended answers
 - Sec C) Case Study
- *Available of June in each year. (allowed one resit opportunity)
- Highest grade will go towards overall grade.
- Paper graded L3 pass, merit, distinction or distinction *.

Assessment Grid

Learning Outcomes	Assessment Criteria	Marks	%
LO1 Understand the importance of food safety	AC1.1 Explain how individuals can take responsibility for food safety	14-22	15-25%
	AC1.2 Explain methods used by food handlers to keep themselves clean and hygienic		
	AC1.3 Explain methods used to keep work areas clean and hygienic		
	AC1.4 Analyse risks associated with food safety		
LO2 Understand properties of nutrients	AC2.1 Explain how nutrients are structured	14-22	15-25%
	AC2.2 Classify nutrients in foods		
	AC2.3 Assess the impact of food production methods on nutritional value		
LO3 Understand the relationship between nutrients and the human body	AC3.1 Describe functions of nutrients in the human body	22-31	25-35%
	AC3.2 Explain characteristics of unsatisfactory nutritional intake		
	AC3.3 Analyse nutritional needs of specific groups		
	AC3.4 Assess how different situations affect nutritional needs		
LO4 Be able to plan nutritional requirements	AC4.1 Evaluate fitness for purpose of diets	22-31	25-35%
	AC4.2 Calculate nutritional requirements for given individuals		
TOTAL		90	100%

Unit 2: Ensuring food is safe to eat (External assessment)

- Compulsory unit cover in Yr13
- Assignment (released May 1st)
- 8hr timed supervised assessment (one session?)
- Scenario related to a food safety situation. Analysing info and making judgments regarding potential food safety risk.

Unit 2	Ensuring Food is safe to Eat
WJEC unit entry	9622
Guided learning hours	90

Aim and purpose

Learners will develop an understanding of hazards and risks in relation to the storage, preparation and cooking of food in different environments and the control measures needed to minimise these risks. From this understanding, learners will be able to recommend the control measures that need to be in place, in different environments, to ensure that food is safe to eat.

Unit introduction

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. This understanding will allow you to recommend the safety controls that should be in place in different environments where food is stored, prepared and cooked.

Unit 3: Experimenting to solve production problems

- Optional unit covered in Yr13
- Assignment (internally assessed)

Unit 3	Experimenting to Solve Food Production Problems
WJEC unit entry	9623
Guided learning hours	90

Aim and purpose

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.

Unit introduction

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, but provide the consumer with interesting and exciting food choices.

This unit will provide you with an understanding of the scientific properties of food and how these properties contribute to the changes that occur in food. You will also draw on your learning from **Unit 1: Meeting Nutritional Needs of Specific Groups** and **Unit 2: Ensuring Food is Safe to Eat**. You will use this learning to plan and carry out experiments with different types of food. By carrying out these experiments, you will be able to propose options to solve food production problems.

Unit 4: Current issues in Food Science and Nutrition

- Optional unit covered in Yr13
- Assignment (internally assessed)

Unit 4	Current Issues in Food Science and Nutrition
WJEC unit entry	9624
Guided learning hours	90

Aim and purpose

Through this unit, you will develop the skills needed to plan, carry out and present a research project on current issues linked to issues related to food science and nutrition. This could be from the perspective of a consumer, food manufacturer, caterer and/or policy-making perspective

Unit introduction

Are mass produced economy 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.

Through this unit you will have the opportunity to build on prior learning from **Unit 1: Meeting Nutritional Needs of Specific Groups** and **Unit 2: Ensuring Food is Safe to Eat** and develop knowledge and understanding of issues that are currently affecting food choice and food availability. Through individual and group projects, you will learn about how key stakeholders within the food industry are responding to changes in food related habits. The projects will also help you to develop the skills needed to effectively plan and carry out an individual research project.



Before the course starts you need to carry out the research and tasks below:

Nutrition is a key part of the course and you will need to have a clear understanding of nutrients and healthy eating.

Watch the video link to learn more about what is meant by a healthy diet.

Task 1.

Explain in detail what a healthy diet is and the key elements of the NEW Eatwell Guide. This will be in an essay format, and you will provide a considerable level of detail. This should be at least two typed pages, and could be considerably longer. Include as much scientific detail (including scientific diagrams of nutrients, what they are broken down into and how) as possible.

<https://www.youtube.com/watch?v=1tJYcNt6Bpk>

Explore the concept of energy intake, expenditure and energy balance.

<https://www.youtube.com/watch?v=d-5w67NAOlo>

Task 2: Watch the podcast about energy and use the information to check you can answer the questions below (short answer questions).

What is energy?

Why do we need to eat food?

How much energy do we need?

What are the factors that affect 'energy out'?

What is energy balance?

Task 3: Keep a diet Diary for 3 days- one of which should be a weekend day.

Using the website www.nutritionprogram.co.uk User name GCSE HARDY password nutrition, analyse your diet for one of these days.

Write an evaluation of your diet. Use the information you have on a balanced diet, energy balance and the outcome of your nutritional analysis. Are there any deficiencies or excesses? What could you do to put this right?

*See the Exemplar work from Level 3 Food Science and Nutrition assessment to gauge the level of detail required at Level 3- Although yours will be a shorter version as you are only looking at a days' diet. **Tip it is best if you use ICT to help write up and produce this work (This will also be good preparation for year 12 work).***



Task 4: Food in the news: Create a "food in the news" media folder. Between now and the beginning of September collect any articles that you find referring to Food and Nutrition. This can be actual cuttings OR digitally produced using Screen shots etc.

The Guardian and Observer newspapers, the BBC news and the BBC Good Food Magazine are good starting places. You could also look at the free papers and magazines available at food retailers.

Select 2 articles that you think are important/news worthy. Summarise the key points and explain why you think that each article was published/written.

