

Level 3 Alternative Academic Qualification in FOOD SCIENCE AND NUTRITION

Food scientists and nutritionists play a vital role in global health and wellbeing, ensuring the safety, quality, and sustainability of the food we eat. Their work addresses key challenges such as food security, malnutrition, and the prevention of diet-related diseases. Learners on our Level 3 Alternative Academic Qualification (AAQ) in Food Science and Nutrition (Extended Certificate) will explore the science behind food production, processing, and innovation, alongside the study of human nutrition, health, and disease prevention.

Year 12

Unit 1: Nutritional needs across the life stages.

This unit develops knowledge and understanding of food and nutrition across the life stages.

Externally assessed exam

Unit 2: Developing practical food production skills.

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.

Internally assessed NEA (Coursework)

Year 13

Unit 3: Principles of food hygiene and food safety in food production

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.

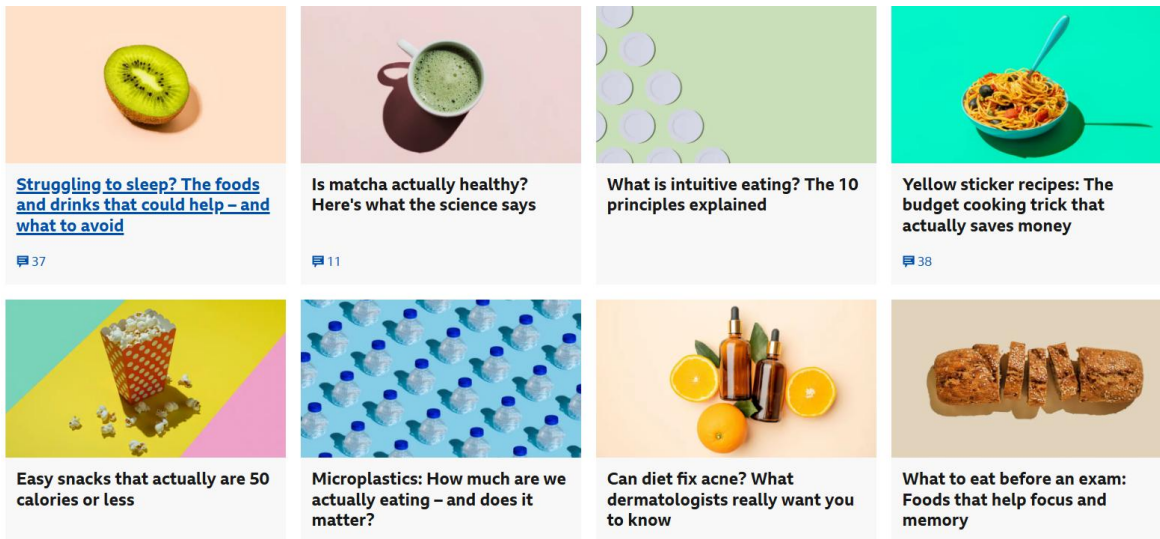
Externally assessed exam

Unit 4: Experimenting to solve food production problems

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.

Transition Task 1

Food and diet is often in the news. These are just a few that have been in the BBC news recently.



Choose one topic of interest to you (not necessarily from list above) and collate some articles/leaflets. Present a written summary of your findings, making sure to include and reference the articles/leaflets with your work. Choose articles which interest you!

Transition Task 2

Foods from different cultures often comes up as a focal point for module 2 coursework. Find a recipe for a dish from a different culture, which demonstrates a variety of food practical skills, and make it at home. Take some pictures of the making and the final product. Explain what the dish is and which country or culture it originates from. Include the recipe and method. Try not to use shop bought components eg no ready-made sauces or pastry.

Transition Task 3

In Year 13 you will need to make changes to products to improve them or change them for a different market.

Attached is a standard recipe for a lemon meringue pie.

1. Explain the 3 parts to the dessert.
2. Suggest how this dessert could be modified for the vegan market. Which ingredients would need to be changed, and what might work instead? When changing ingredients consider if this would affect the sensory properties of this dish and if there would be any practical issues when making it eg how might the method change.
3. Suggest how this dessert could be modified for the low fat, low sugar market. Again consider how changing ingredients might affect the practical outcome and sensory properties.
3. Carry out a costing per serving for the original dessert using a supermarket website to source your prices. Show your calculations.



Lemon Meringue Pie

Method

1. First make the pastry. Either by hand or using a food mixer with a beater attachment, cream the butter, icing sugar, egg yolks, vanilla and lemon zest together. Add the milk and combine well. Tip in the flour and a pinch of salt, then rub or beat to form a dough. Shape into a thick disc and chill for at least 30 mins or overnight.

2. Meanwhile, make the lemon filling. Beat the eggs and sugar together then add the zest and juice and stir in the double cream. Cover and put to one side.

3. Heat oven to 180C/160C fan/gas 4. Roll pastry out to a little thicker than a £1 coin and line a 23cm tart tin. Leave the excess pastry around the edges as this can be cut off when the tart has been cooked. Line the tart case with greaseproof paper, fill with baking beans and bake for 20 mins.

Remove the baking beans and reduce the heat to 160C/140C fan/gas 3 and cook for another 20 mins.

Remove from the oven and allow to cool. Trim off the excess pastry from the edge of the tart using a serrated knife.

4. Pour the lemon mix into the tart case. This may be easier with the tart case sitting in an open

oven as so not to have to move it when full of mixture. Turn the oven to 140C/120C fan/gas 1 and cook for 30-35 mins until set with a slight wobble in the centre. Remove and cool to room temperature.

5. For the meringue, put the sugar, 65ml of water and the glucose in a heavy bottomed pan on a medium heat and stir to dissolve the sugar. Once it is dissolved, bring to the boil and use a sugar thermometer to keep an eye on the temperature.

6. Using a pastry brush dipped into cold water, brush down the inside of the pan just above the level of the sugar syrup, this will stop the sugar crystallising. Place the egg whites into a food mixer with a whisk attachment and when the syrup temp reaches 110C, turn on the mixer and whisk the whites

7. When the temperature reaches 118C (soft ball – this will be marked on the sugar thermometer), steadily pour the sugar syrup in a thin stream into the now stiff egg whites and continue whisking for 20 mins until completely cold. Transfer into a piping bag with a medium size star nozzle. As it is cooked, this meringue can be made in advance. You can even make it the day before.

8. You can pipe the meringue onto the tart as a whole or in individual portions, then glaze with a blowtorch. It can be easier and neater to cut the slices before piping with meringue. They can still be served in tart formation on a serving dish.

Ingredients

For the pastry

140g unsalted butter
100g icing sugar
2 large egg yolks, beaten
1 vanilla pod – seeds
zest 1 lemon
2 tbsps cold milk
250g plain flour

For the lemon filling

6 eggs
140g caster sugar
4 unwaxed lemons
175ml double cream

For the meringue

300g caster sugar
25g liquid glucose
4 egg whites