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# **EXAMINERS' REPORTS**

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**LEVEL 3 CERTIFICATE IN  
FOOD SCIENCE AND NUTRITION**

**SUMMER 2022**

Grade boundary information for this subject is available on the WJEC public website at:  
<https://www.wjecservices.co.uk/MarkToUMS/default.aspx?!=en>

### **Online Results Analysis**

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### **Annual Statistical Report**

The annual Statistical Report (issued in the second half of the Autumn Term) gives overall outcomes of all examinations administered by WJEC.

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# FOOD SCIENCE AND NUTRITION

## Level 3 Certificate

Summer 2022

### UNIT 1 – MEETING NUTRITIONAL NEEDS OF SPECIFIC GROUPS - EXTERNAL

#### General Comments

Advanced information for the summer 2022 examination was released in April. The purpose of which was to support revision by providing the content focus of the higher tariff questions. The expectation was that all specification content would still be covered as part of teaching and learning.

The marks awarded differentiated across the whole of the mark range.

It was evident particularly in high level responses to Question B 2a and Section C Question 2 that the Advanced Information had helped in providing a focus for revision, for some Candidates.

The quality of written communication (QWC) was assessed in all questions this series that asked candidates to 'explain', 'discuss' and 'evaluate'. Some candidates answered these questions by simply making statements which, in the main, were correct but can only be awarded the lower band marks due to a lack of explanation, discussion or assessment. To access the higher band marks the candidates must explain the statements made and give examples, if appropriate. Candidates should be encouraged to make use of paragraphs when writing a detailed response.

Candidates would be advised to make it clear when they have continued their answer in a continuation booklet to ensure that when examination papers are scanned in preparation for marking, the whole of the Candidate response can easily be attributed to that Candidate. They should ensure they make clear the number of the question which is being continued and from which section.

Some candidates continued their answer in the space under the lines. This is to be discouraged as when papers are scanned for marking work outside the allocated area could be overlooked, WJEC will ensure additional lines are added to future papers to try to mitigate against this risk.

It is important that candidates record the correct Centre number and their candidate number in the appropriate place on the front of their answer booklet.

## Comments on individual questions/sections

- Q.1 Most candidates gained 2 or 3 marks. This question was generally well answered showing an awareness of the food hygiene regulations relating to the wearing of a chef's uniform in particular the importance of not wearing it outside the kitchen environment.

Some candidates were seen to state reasons for wearing a chef's uniform rather than three hygiene reasons that related to the wearing of it.

A few responses included safety regulations relating to footwear or the wearing of an apron for protection from things being dropped or burns, neither of which were correct in the context of the question.

- Q.2 (a) Where candidates were familiar with micro-organisms, they were able to gain full marks. More negative effects of micro-organisms on food were given in response to this question than positive effects. Credit was given for food poisoning, food spoilage, named signs of food spoilage, Fermentation. Positive effects related to yeast in bread, bacteria in yoghurt.

Those candidates who had misunderstood the question gave examples of effects on a person who had consumed food affected by micro-organisms e.g., vomiting rather than effects of micro-organisms on the food itself.

- (b) Candidates demonstrated a good knowledge of named micro-organisms responsible for effects given in part (a). There was some confusion between enzymes and micro - organisms.

Where candidates had given an incorrect answer to part (a) of this question but were able to give a correct response to part (b) their response was credited accordingly.

- Q.3 A number of Candidates did not attempt this question. Of those who did some found it difficult to define the term due diligence.

Candidates who were familiar with the term were able to attempt a definition supported with an acceptable example. There were some excellent responses seen referring to being able to prove that everything reasonably possible had been done to prevent food safety breaches. In some cases, just examples of due diligence were given enabling Candidates to be awarded 1 mark.

- Q.4 (a) The majority of candidates were able to name a good source of Riboflavin. With milk, milk products, eggs and fortified breakfast cereals being the most popular answers. being the most popular answer. However, reference needed to be made to fortified breakfast cereals rather than just to cereals.

- (b) Most candidates were able to gain one mark by stating at least one function of riboflavin in the body related to energy release from food. Those gaining full marks were able to state different examples of macro nutrients from which energy was released, make reference to energy release during respiration, and or the production of Vitamin B6.

- Q.5 (a) Where candidates were familiar with the term lipids, they were able to provide detailed answers relating to energy, insulation; protection of vital organs; providing fat soluble vitamins ADEK to gain two marks.

Some candidates were seen just to give one-word responses. Candidates should be advised that marks can only be awarded for explicit responses.

- (b) Some excellent responses were seen where the candidates had clear knowledge of the difference between sources of visible and invisible fats and oils demonstrating knowledge of how invisible fats/oils can be present naturally in food sources or added during production. Where this was supported with named examples for both types, they were able to achieve full marks.

Where done less well candidates were seen to describe the difference in terms of being visible to the naked eye or not being visible but did not support this with any examples.

Where candidates had misunderstood the question, they just described the difference in structure of saturated and unsaturated fats.

- Q.6 The majority of Candidates were able to gain one mark, most answers seen were at a basic level making reference to sunlight an important non-food source of Vitamin D. Those gaining two marks either then mentioned Vitamin D supplements or went onto outline how Ultra violet light from the sun stimulates provitamin D which is just under the skin, to convert to cholecalciferol.

- Q.7 The best responses to this question were given by Candidates who had a clear understanding of the role of cholesterol lowering food products in the diet of those with a known raised cholesterol level and were able to make a balanced assessment including information related to sterols and stanols supported by named examples of food products such as Benecol spreads to which they have been added. Other points raised showed an understanding related to the reduction of risk of cardiovascular disease, reduction of LDL cholesterol.

As this was a question calling for an assessment, credit was also given to other ways of reducing cholesterol level through a balanced diet, reducing saturated fats in the diet and exercise.

Some Candidates just wrote about different types of cholesterol, or just stated its function.

## Section B

- Q.1 This question was attempted by nearly all candidates with many being able to access the middle/ higher mark bands. Where done well candidates gave detailed responses demonstrating clear understanding of the range of optimum conditions Bacteria require to grow and multiply referring to level of moisture, required temperature, nutrients, time, suitable PH, level of oxygen. Then went on to give detailed explanation of how three or four of these conditions could be controlled supported with examples and the inclusion of appropriate correct temperatures.

Where Candidates only focused on **one** condition without any mention of temperatures, they were unable to gain more than four marks.

Some Candidates showed an awareness of optimum conditions but then discussed kitchen hygiene rules rather than control measures. Not all responses showed knowledge of optimum conditions just stating how bacterial growth could be controlled.

This question highlighted the importance of Candidates being explicit in their response, making a point followed by an explanation and example (PEE).

- Q.2 (a) Not all candidates appeared to be familiar with the term molecular structure in relation to complex carbohydrates with many choosing not to attempt this part of the question. A wide spread of marks was awarded for this part of the question. Where Candidates had used the advanced information in relation to AC2.1 and revised the chemical structure of carbohydrates some excellent factually correct responses were seen referring to amylose and amylopectin in relation to starch, followed by detailed description of the molecular structure of cellulose and the way the B-glucose units are joined together. At the other end of the spectrum some candidates just included an incorrect diagram or gave a source for starch and cellulose rather than attempting to describe its molecular structure.
- (b) This part of the question was attempted by more candidates and by some who did not attempt a response to part (a).

Explanations of the role of dietary fibre in the body which referred to soluble and insoluble fibre with clear explanation as to roles of each supported with specific examples, were able to gain full marks.

A few Candidates just gave examples rather than explaining the role. Some very simplistic answers relating to digestion rather than the digestive system were seen.

- Q.3 The candidates' responses varied depending on their knowledge of different types of dietary iron and its function in the body. The most simplistic answers just mentioning the production of red blood cells without any reference to different types of iron. Those who were able to discuss the two basic forms haem or non-haem sources and function were able to move into the middle mark band. Some excellent top mark band responses were seen where Candidates demonstrated an in-depth knowledge of the haem and non-haem dietary iron, differing food sources, detailed function relating to blood pigment, haemoglobin, transport of oxygen and factors effecting utilisation /absorption.

Iron supplements were mentioned as a source, but these are not a type of dietary iron.

- Q4 Not all Candidates attempted a response to this question. Where done well Candidates demonstrated a good knowledge of a range of strategies taken from the governments most recent obesity strategy. In some cases, responses were supported by examples of previous government initiatives and were credited where appropriate assessment was made. Examples of strategies seen to be assessed by Candidates were; the Ban on TV and online adverts for food in fat, sugar and salt, end of deals like buy one get one free, calories to be displayed on menus to help people make healthier choices when eating out, Traffic light labelling, Sugar tax initiative, Eatwell guide, 5 a day campaign, NHS initiatives, couch to 5K, change for life, Initiatives relating to school meals.

Where Candidates were able to make a detailed assessment of how at least three strategies specifically helped in the battle against obesity they were able to access the top mark band.

Some Candidates who misunderstood the question just talked about the problems of obesity made worse by the enforced lockdowns. Where Candidates made suggestions for strategies and made an assessment of what their impact was likely to be they were credited at an appropriate level.

## Section C

Q.1 All candidates were able to access some marks with their response to this question; at the lower end candidates were able to use Lizzy`s profile to determine her most obvious current and future nutritional needs relating to a gluten free diet. Some candidates were seen just to rewrite the information with which they had been presented. The emphasis in responses to this question needed to be on analysis of nutritional needs, both current and future. Where Candidates failed to see beyond the fact that she would need to remove gluten from her diet their responses were very limited.

At this level; as was evident in the responses awarded marks in the higher mark bands; it is expected that candidates would demonstrate application of detailed understanding of source; function; deficiency of macro and key micronutrients making clear reference to examples in Lizzy`s profile; along with her specific dietary needs. The use of terms such as “unhealthy” or statements with no direct correlation or reference to examples given in Lizzy`s profile were still seen to being made.

Some candidates had correctly calculated her BMI noting that it was at the lower end of the normal range and discussed this in relation to her active lifestyle outside of work suggesting the need to increase her calorie intake to maintain an energy balance.

Where Candidates failed to respond to the command word, they were seen to just identify a list of points in the profile as opposed to analysing them. It is evident in candidate responses where they have been introduced to case studies during the delivery of the course; along with the technique of how to carry out an analysis a specific case study through pre public examination practice.

The case study this year highlighted the importance of thinking about the whole profile of the person in the case study. As it was apparent that whilst candidates were familiar with the dietary needs in relation to a coeliac diagnosis, they were less familiar with the current and future needs of a young adult female and lifestyle choices she may choose to make which could impact on her nutritional need.

This question highlighted the importance of candidates remaining focused on the case study with which they have been presented some candidates were seen to include suggestions from previous studies related to obesity which bore no relevance to Lizzy.

Q.2 Candidates were clearly familiar with Coeliac disease. Those who had made use of the advanced information had gained an understanding of the condition and its implications, however application of knowledge gained in terms of assessments of the potential impact of the condition going undiagnosed on Lizzy`s health and well-being varied with marks for this question covering the full mark range. The most simplistic responses focused on the worsening of physical symptoms mentioned in her profile along with implications for her mental health. At the opposite end of the spectrum some very complex responses were seen which demonstrated understanding of damage to the villi lining of the small intestine, malnourishment, nutrient deficiency which they related to Lizzy currently in terms of anaemia, potential weight loss, worsening physical symptoms which could affect physical and mental well being in relation to employment, social life, and in the future potential risk of osteoporosis.



Some candidates were seen still to be answering question 1 and 2 together making the task of allocating marks to each specific question more difficult for the examiners. There is a clear distinction in what is being asked in question 1 from question 2.

- Q.3 All candidates were able to suggest a new daily diet. It was clear from the way some candidates responded to this question that they just expected to modify a given meal plan and had entered the examination with this in mind rather than reading the question and responding to its specific requirements.

The quality of new daily diets covered the full mark range. Those being awarded marks in the top mark band looked beyond the need just to eliminate gluten and provided excellent sources of protein to meet the demands of her physical activities, iron rich foods to ensure the production of haemoglobin and prevent anaemia. Sources of calcium and Vitamin D to prevent against osteoporosis in the future.

A few Candidates thought that rice contained gluten.

At this level it is expected that the types of foods/dishes chosen would demonstrate and understanding of meal planning; along with detailed knowledge of the role different commodities and nutrients play in ensuring a balanced diet to meet the needs of a young adult female with a potential gluten intolerance. It is expected that candidates would give specific named examples for the commodities being suggested for example skimmed milk, type of oily fish salmon or fresh tuna.

Good practice was observed where candidates clearly laid their choices out next to mealtimes as in the question or presented in table form. Assisting the marking process.

- Q.4 Those candidates who had a good nutritional knowledge and understanding of Lizzy's life stage, coeliac diagnosis and potential impact of this condition were seen to give excellent responses which justified in detail their chosen menu choices/menu adaptations in relation to fitness for purpose. These high-level responses were well structured making use of connectives with points made clearly showing understanding of source; function of nutrients with named examples and evidenced in both ingredients and commodities used in their planning. At the lower end where candidates had just made minor adaptations to the example menu with which they had been presented which showed little understanding of Lizzy's specific needs beyond the removal of gluten; justification was weaker and tended just to focus on the fact that commodities containing gluten had been removed. It would appear some Candidates had run out of time as they did not attempt this question.

Candidates need to be discouraged from just making generic statements about the function of nutrients; responses need to show clear application to the case study. There was evidence of candidates having a detailed understanding of the function and source of nutrients, but their responses lacked application in terms of justifying fitness for purpose of their chosen meal plan in relation to the dietary needs of Lizzy.

Where Centres have encouraged candidates to answer question 3 and 4 together in table form whilst this makes responses clear to read; it is important to ensure that this does not restrict access to the top mark band which requires candidates to make an in-depth justification for their choices with sound reference to Lizzy's specific nutritional and personal needs.

## **Summary of key points**

It is important that all areas of the specification are covered in the delivery of the curriculum, regardless of whether AI is made available, as all content areas will be covered in one way or another in every examination paper.

Candidates should be advised about the over reliance on giving a one-word responses or using abbreviations/text speak.

Candidates need to ensure that the response is appropriate to the question being asked. We advise making sure they practice a range of questions covering the different command verbs.

Candidates would be advised to make good use of the reading time to read all questions thoroughly before attempting the paper as this year, more than ever, errors were made because of candidates' misreading questions and choosing the wrong focus for their answers.

Future candidates would benefit from having timed practice assessments to ensure they can plan their time well and complete all sections of the paper.

# FOOD SCIENCE AND NUTRITION

## Level 3 Certificate

Summer 2022

### UNIT 2 – ENSURING FOOD IS SAFE TO EAT

#### General Comments

- Use of the Assessment Criteria as subheadings by Candidates in their work assisted the marking process, thank you and is to be encouraged to also help candidates structure their work.
- It appeared that some candidates had copied and pasted lots of generic notes with information into their work, which was not always relevant to this years scenario.
- It would be beneficial for candidates to use the specification grid for Unit 2 which identifies the learning outcomes and content – to clarify the information needed and to help them focus on cover each assessment criteria.
- Some candidates were seen to include work which appeared to be related to previous scenarios. Whilst it is anticipated that Candidates will have undertaken examination preparation, they should not have access to work for/ relating to any similar scenarios when they undertake the “live” assessment.

#### Comments on individual questions/sections

The majority of work received for marking of this external Assessment Task was well presented with the correct Mark Sheet accompanying the evidence for each candidate

The standard of the work produced by the candidates covered the whole mark range. Where candidates had clearly covered the specification during their guided learning hours, they were able to demonstrate their understanding of food hygiene and safety with clear application of the subject content to the scenario.

The scenario on which the external Assessment Task is based should always be the focus of the work which is completed. Those candidates who had interpreted the requirements of the Home-cooked Indian Takeaway menu external Assessment Task well, were able to produce responses which remained focused on the scenario referencing specific examples; enabling them to access the higher mark bands.

The key element is the avoidance of the inclusion of and reliance on generic notes. Candidates need to be encouraged to demonstrate the application of their food safety knowledge to the Assessment Criteria which are being assessed and closely relate this to the scenario.

Some excellent distinction level work was seen where Candidates had produced concise written discussion for task one demonstrating understanding of the Home-cooked Indian takeaway situation whilst applying direct application to the Assessment Criteria. Accompanying H.A.C.C.P plans for task two demonstrated understanding of how cooking in the home environment differed to that of a commercial premises.

In some of the work submitted this year candidates had not addressed all the required Assessment Criteria and as such denied themselves access to the full range of marks.

Candidates need to be aware that two of the twelve possible Assessment Criteria are not assessed each series. These change each year, and time was wasted by some candidates on the inclusion of generic notes for AC1.1 describe properties of micro-organisms and AC1.4 Assess how preservation methods prevent the growth of micro-organisms, which were not assessed this series.

The scenario this year, required Candidates to apply their knowledge and understanding of the implications of eating takeaway food purchased from an unregistered private home whilst addressing the required Assessment Criteria for task 1 in their written discussion, supported by their H.A.C.C.P plan for task 2. This plan should have demonstrated an awareness of the information that would have needed to be included in preparation for submission to the local council had the Home-cooked Indian takeaway registered their premises.

The majority of candidates had completed Unit 2 Assessment following the two distinct tasks for the Home-cooked Indian takeaway menu, which was good to see.

Evidence of the 8 hours was mostly logged on the timesheet with date and times that work took place and signed by the supervisor and the candidate.

This summative **external** assessment should be carried out in controlled conditions. Once work has been started Candidates should not be given guidance on how to improve their work.

See below for more detailed guidance for each AC section, which should enable centres to guide future candidates through any practice assessments.

**Task 1: Discuss the food safety and hygiene implications of eating takeaway food purchased from an unregistered private home.**

**Task 2: Produce the Food Safety Risk Assessment (H.A.C.C.P), which would be legally required, had the premises been registered with the local council.**

**Task 1: Discussion**

**AC1.2 Assess how changing conditions affect growth of micro-organisms in different environments.**

Evidence for AC1.2 was not always addressed well or only briefly with the inclusion of generic notes, some candidates had referred to changing conditions such as temperature, oxygen, water and nutrients but did not go onto included discussion in relation to environments. Where candidates had discussed conditions and environments and linked this successfully to the foods on the menu, they were able to access the higher mark bands.

Some candidates included information on environments which had no relevance to this year's scenario.

**AC1.3 Explain how micro-organisms affect food quality**

Candidates had provided descriptions of how of micro-organisms affect food quality covering bacteria, viruses and fungi; in relation to appearance, texture, smell/aroma, taste non-visible effects and nutritional content. Scientific terms were used effectively, and some candidates had applied the information to the dishes on the Indian take away menu. It is essential to demonstrate understanding of the command word in order to explain and directly apply the information to the scenario and many candidates failed to address this in their discussion.

### **AC2.1 Explain the physiology of food intolerance**

Candidates were able to explain the physiological basis of food intolerances including wheat and lactose intolerance, some had referred to chemicals including caffeine, salicylates monosodium glutamate and histamines. Some candidates were confused between a food intolerance and food allergy. For marks in the high band lactose, wheat and chemical intolerance where appropriate need to be applied to the dishes on the menu. The majority of candidates were able to identify the relevant ingredients from the menu which could cause intolerance symptoms to the couple. Where candidates made an assessment as to whether the symptoms exhibited could be attributed to an intolerance, they were able to clearly demonstrate the application to the scenario which is a requirement of the higher mark bands. Some reference to food intolerance was also included in the risk assessment chart.

### **AC2.2 Explain the physiological basis of food allergies**

The majority of candidates were able to explain the physiological basis of food allergies, and most were able to identify potential links with dishes on the menu. Some candidates were confused between food allergy and food intolerance. Those who gave a more detailed response were able to demonstrate knowledge of the foods which most commonly contain allergens as listed by the Food Standards Agency; apply this to the scenario with an analysis of both the dishes on the menu and symptoms exhibited by the couple. Some candidates just presented generic information about food allergies making no reference to the scenario.

### **AC2.3 Explain the physiological basis of food poisoning**

Where candidates showed understanding and application of knowledge about the physiological basis of food poisoning, they were able to complete this Assessment Criteria to a high standard. Foods which present a high risk of food poisoning and causative bacteria were identified with specific links to foods on the menu, followed by detailed assessment of the physiological effects related to the couple who had eaten from the Home-cooked Indian takeaway menu.

### **AC2.4 Describe the symptoms of food induced ill health**

Where Candidates just presented a generic table which included information about visible/nonvisible symptoms, onset periods, duration of symptoms, level of contagion, they limited their access to the higher mark bands.

Where done well Candidates had made direct application in their descriptions through an analysis of the symptoms being exhibited by the couple who had eaten food from the Home-cooked Indian Menu.

Further evidence for AC2.3/AC2.4 was also applied well in the risk assessment chart.

## **Task 2 Food Risk Assessment**

The sample Risk Assessment chart from Appendix B or a modified version had been used well to address Assessment Criteria for L03 by the majority of Candidates, providing clear structure to this section of work.

**AC3.1 Describe food safety hazards in different environments.**

**AC3.2 Assess risk to food safety in different environments.**

**AC3.3 Explain control measures used to minimise food safety risks.**

**AC3.4 Justify proposals for control measures in different environments.**

The risk assessments produced by Candidates covered the full mark range.

It is evident that there is a solid understanding of the basic principles of a H.A.C.C.P plan, showing the hazards, risks and control measures that apply to the preparation and serving of food when catering in relation to the purchase, delivery, storage, food preparation, cooking, reheating, cooling, hot holding, cold display, serving, disposal of waste.

When it came to its application to the given Scenario, then knowledge and understanding was variable. Some candidates only provided generic information and or included information for areas which had no bearing to the Home -cooked Indian take away scenario. At the other end of the spectrum some excellent plans were seen in which Candidates showed direct correlation to the homecooked environment demonstrating good understanding of the differences to the environment in this scenario to that of a commercial premises.

Where candidates were able to support this understanding of the H.A.C.C.P principles with a risk assessment in relation to specific foods on the menu including reference to specific temperature controls and timings for storage at the various stages; they were able to access the higher mark bands. As the scenario included a takeaway menu; knowledge of potential risks with this aspect was expected.

Some candidates did not complete a detailed justification of the control measures to minimise food safety risks which they had identified.

### **Summary of key points**

- Please ensure a copy of the external assessment task Mark Sheet with the centre and candidate details on the front of the work, for each candidate is sent with each assessment.
- The blue copy of the Attendance register is also required to be sent with the work of the candidates.
- Please ensure that the work from candidates is both hole punched, and treasury tagged or stapled securely in the top corner. Some centres choose to bind the work produced this series but this is not a requirement. Work should not be sent in plastic wallets.

## FOOD SCIENCE AND NUTRITION

### Level 3 Certificate

Summer 2022

#### UNIT 1 – MEETING NUTRITIONAL NEEDS OF SPECIFIC GROUPS - INTERNAL

##### General Comments

All current Model Assignments were seen to have been chosen by candidates this year. 2019 was the final year that the Western Avenue Model Assignment should have been used. It should not have been introduced to candidates submitting work for the 2022 qualification.

Candidates should be encouraged to use the Assessment Criteria as headings throughout their work as this enables them to ensure coverage and assists the moderation process when it comes to verifying where the Assessor has awarded marks.

Candidates should be encouraged to identify a target group at the start of their work and to make reference to this group throughout their report. Candidates should keep a clear focus on the Performance Band Criteria and avoid the inclusion of research unrelated to the Model Assignment and chosen menu particularly when time taken to complete this may have been at the expense of other required Assessment Criteria.

Most candidates had interpreted the requirements of the Model Assignment for Unit 1 well. An improvement in the application of information to the scenario was evident in work submitted by some Centres, however moving forward this is still the area requiring the most improvement. Where Centres had acted on advice offered by moderators in their previous reports this had also helped to improve the quality of the work produced.

Most candidates started their reports with a brief introduction which demonstrated their understanding of the Model Assignment and enabled them to remain focused on the tasks. Within this some Candidates had clearly outlined a profile for a member of the target group to be their focus. This enabled them to go on and demonstrate clear application of Assessment Criteria to meeting the needs of their specific target group.

It is good practice for each Candidate to include a front cover with;

- Unit number and title
- Candidate name and number
- Centre name and number
- Model assignment which has been selected with photograph of complete dishes.

The individual Centre moderators' reports are an invaluable source of feedback. It is important that assessors read them to ascertain which areas if any require development with future learners before embarking on the Model Assignment. In some cases, moderators were suggesting action points which had been made in a previous year's report. Where Centres had actioned points raised an improvement in the standard of work produced by Candidates was evident.

## Comments on individual questions/sections

### Task 1

#### General comments

The majority of candidates included some coverage of Assessment Criteria 1 in a written section following on from their interpretation of task.

See below for more detailed guidance for each AC section, which should enable centres to support the preparation of future candidates.

#### AC1.1 Explain how individuals can take responsibility for food safety

#### 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

To access Mark Band 3, for AC 1.1; AC1.2; AC1.3; AC1.4, candidates should explain with clear and detailed reasoning how a **range** of individuals can take responsibility for food safety; a **range** of methods which food handlers can use to keep themselves and work areas clean and hygienic; analyse a **range** of risks to food safety.

Candidates should be discouraged from just including generic notes. There needs to be a clear focus in the evidence which they submit to the environment within which the chosen Model Assignment is set.

The emphasis should be on explanation/analysis rather than just a list of responsibilities/methods. It is vital that Candidates are familiar with the command words at the start of each Assessment Criteria

An example of good practice as seen by use in some Centres has been: Evidence for these criteria included in:

- The written work at the beginning of Task 1
- Recorded on the production plan in the Mise-en place section; Critical Control Points column; **which as well as identifying hazards includes explanation/analysis.**
- Answers to interview questions. (which support evidence in the main body of work) There was no requirement for an interview to have been conducted this year, however some centres still chose to do so.

There was still evidence of confusion in some work presented in the distinction between food safety and personal accident/accident prevention; with candidates being credited marks by assessors in AC1.3 for control of personal injury/ accident prevention as opposed to food safety risks.

#### AC5.1 Interpret recipes for complex menus

The menus presented by candidates illustrated that many of them had a good understanding of the requirements for this task having chosen dishes to include on their menu which required complex preparation; cooking; and presentation skills; whilst meeting the requirements of the target group within their chosen Model Assignment.



There is no requirement for candidates to supply detailed reasons for choice justifying the complexity of their dishes as this will be determined by the assessor and the complexity of the skills being demonstrated should be evident in the detail on the candidates' production plans.

In some cases where candidates had opted for the Spa menu some choices were considered to be too high in fat/sugar considering the situation in which they were going to be served.

It is important that candidates have been introduced to a range of complex skills throughout the delivery of the course enabling them to build up a repertoire of dishes from which to choose once introduced to the Model Assignment. Some Centres were giving candidates credit here and subsequently in the practical skills test for dishes which would not be considered complex in relation to the level of this qualification.

The majority of candidates did use an email format to detail their requirements for the practical session and this is the preferred way of evidencing this section. Candidates should be encouraged to complete their shopping list in a composite format rather than for each course/dish.

## **AC5.2 Plan production of dishes**

All candidates showed evidence of planning but with varying degrees of detail. Those able to access Mark Band 3 produced some excellent production plans; with evidence of complex dishes being dovetailed in respect of preparation; cooking and presentation. The majority of these candidates also ensured that the layout of their plan facilitated/ supported the coverage of **AC1.1 AC1.2 AC1.3 AC1.4 AC6.3 AC6.7**

The production plan should contain enough detail for the chosen dishes to be prepared; cooked and presented by the candidate or a third party without the need for further instruction.

### **Suggested action point taken from all centres moderated are as follows:**

Centres should encourage candidates to introduce their task with a brief written explanation showing understanding of the requirements of the Model Assignment.

Evidence of good practice was observed where candidates followed this with some written explanations related to AC1.1, AC1.2, AC1.3. The inclusion of generic notes is to be discouraged candidates need to keep a clear focus on the environment within which the scenario is set.

A small number of Centres were still seen to include excessive amounts of introductory writing; this is unnecessary and to be discouraged. Some centres approached the format in a similar way to GCSE Food Preparation and Nutrition, meaning folders included research task details as part of the introduction, this is not in keeping with this Model Assignment and should not be encouraged, as the controlled 9 ½ hour time allocation is necessary to compose the production plan complete the practical skills test and to ensure the coverage of all the Assessment Criteria.

A detailed reason for choice relating to the aesthetics of chosen menu is not mentioned on the Performance Band Criteria. Whilst the inclusion of some sensory comment may support justification it is important to ensure that its inclusion is not at the expense of the required Assessment Criteria for the Task. Where candidates had included nutritional information higher Mark Banding could be agreed.

**AC5.1** It is anticipated that candidates will have been introduced to a range of advanced preparation and cooking techniques during the delivery of the course. Guidance regarding appropriate level three skills can be found on the WJEC open website > resources for teachers > Unit 1 Practical Skills dishes.

It is important that candidates are familiar with what constitutes a complex skill as the wrong choice in the initial stage can limit their ability to access the higher Mark Band in the practical skills test.

There is no requirement for a research plan or research into analysis of local restaurant menus. This is something which could have been done during the delivery of the course not within the 'time limit' of the Model Assignment.

**AC5.2:** General feedback is that some candidates could develop production plans to include a more detailed section for the mise- en -place tasks; (enabling them to address elements of **AC1.2 AC1.3** when supported with explanation).

The inclusion of critical and quality control point columns will enable them to address aspects of (**AC1.4**) and how they are going to ensure quality of materials (**AC6.3**) and showing the presentation of dishes is considered (**AC6.5.**). This can then enable the candidate to effectively facilitate a discussion in evaluative comments; demonstrate understanding in the interview if one is conducted.

The inclusion of a column ready for monitoring the production plan throughout the skills test would also enable candidates to satisfy the requirements for **AC: 6.7** more securely as evidence on the plan as a working document could be discussed in their written report. It was positive to see that fewer Centres were seen to have re- drafted the production plan.

The advanced preparation: cooking and presentation skills which are a requirement of the practical skills test in Task 2 should be evident in the production plans produced by the candidate to support comments made on the Observation Record Sheet about these having been witnessed.

## Task 2

### General comments

The practical skills test continues to be a strength for some Centres. Where candidates have been introduced to a range of complex preparation; cooking and presentation skills they were able to showcase their ability to produce some very high quality outcomes. This year moderators did also see practical outcomes at the other end of the spectrum; in some cases, this work was still being credited as complex when it did not meet the requirements expected at this level of qualification.

The Observation Record Sheet is an important document; it is anticipated that the assessor will complete this in detail in order to evidence the level of skills demonstrated throughout the practical task. It would assist the moderation if a list of dishes being prepared was included on the Observation Record Sheet.

Many candidates worked hard to demonstrate technical skills during the skills test. Mark Band 3 candidates demonstrated a broad range of technically challenging tasks together with accomplished presentation techniques for example finer vegetable cuts, boning whole chickens, filleting fish; veloute sauces, vegetable turning, interesting and accomplished vegetable accompaniments, making of fresh pasta; enriched pastry, inclusion of sauces, chocolate and fruit decorations, sugar work. Mark Band 3 candidates were seen to present their dishes from their menu to a high-end restaurant standard. The complexity of the presentation skills used to enhance completed dishes by candidates moderated was varied. Not all presentation which had been awarded Mark Band 3 was considered complex.

Assessor annotation was also essential to confirm flavours were appropriate and balanced; and those working practices demonstrated by the candidate were also to a high standard.

In order to assist with the moderation of the final outcomes a coloured image of the completed dishes from the menu served together is valuable to verify the marks awarded.

See below for more detailed guidance for each AC section, which should enable centres to support the preparation of future candidates.

#### **AC6.1 Use tools in preparation of commodities**

Evidenced by assessor has having been observed during the practical skills test on the Observation Record Sheet. Candidates will have shown knowledge of requirement for specialist tools in their email outlining their requirements for their practical skills test.

#### **AC6.2 Use advanced techniques in preparation of commodities**

Evidenced by assessor has having been observed during the practical skills test on the Observation Record Sheet. Candidates will have shown knowledge and understanding of the advanced techniques to be demonstrated in the detailed instructions for making provided on their production plan.

When preparing dishes using commodities e.g. chicken higher performance banding can be achieved if the candidate bones and joints the chicken and uses portions in their recipe. Similarly when working with fish removing their own fillets. When working with fish during the delivery of the course candidates could be introduced to recipes using seabass; mackerel; trout as a more practical option to filleting a whole salmon.

It is anticipated that at this level candidates will make their own pasta or pastry. Accompany dishes with complex sauces.

Centres could introduce candidates to a wider range of vegetable accompaniments/ garnishes/decorative techniques. It was evident that many Centres did indeed do this this year.

#### **AC6.3 Assure quality of materials to be used in food preparation**

Evidenced by assessor has having been observed during the practical skills test on the Observation Record Sheet. This should also be evident on candidates' production plan in their critical and quality control points section.

#### **AC6.4 Use advanced techniques in cooking of commodities**

#### **AC6.5. Present cooked complex dishes using advanced presentation techniques**

Candidates need to be encouraged to cook for and present two covers to meet the requirements of the allocated /chosen specific target group within the Model Assignment.

Chosen dishes need to show case use of:

- Three advanced preparation techniques
- Three advanced cooking techniques
- Complex presentation skills

Guidance regarding appropriate level three skills can be found on the WJEC open website > resources for teachers > Unit 1 Practical Skills dishes.

It is anticipated that all completed dishes along with any chosen appropriate accompaniments will be presented together on the completion of the skills test. Some Centres appeared only to take photographic evidence of individual dishes. It is considered good practice to include evidence of both Centre and candidate number in the photographs submitted.

#### **AC6.6 Use food safety practices**

Evidenced by assessor has having been observed during the practical skills test on the Observation Record Sheet. This should also be evident on candidates' production plan in their critical control points section

#### **AC6.7 Monitor food production**

Monitoring of production plans needs to be explicit in candidates work. An example of good practice as seen by use in some Centres has been the addition of another column to the plan for the recording of modifications; changes made during the practical. This would strengthen AC6.7 as these annotations could then be discussed by the candidate in their written report clearly demonstrating that it has been used as a working document.

#### **Suggested action point taken from all centres moderated are as follows:**

Learners must be supervised by an assessor whilst completing the practical skills test. The planned practical work should be completed in one session with duration of 3hrs 30 mins, at the end of which all the completed dishes should be presented together.

In order to assist with the moderation of the final outcomes a large coloured image of the completed menu is valuable to verify the marks awarded/quality of completed outcomes. Good practice observed is where candidates also include colour photographic evidence of each completed dish.

Photographic evidence of process/technique is not a requirement as these skills can be authenticated in the Observation Record Sheet.

### **Task 3**

#### **General comments**

Some Centres completed this task exceptionally well and candidates underwent an interview after their practical skills test to support the written evidence which they had produced. Where candidate responses to interview questions had been included it assisted the verification of how marks had been awarded by the assessor. Reliance of coverage of the Assessment Criteria cannot be in the interview alone. **It should be noted that the interview was not a requirement this year, but some Centres did decide to go ahead and conduct one.**

Candidates who had a good understanding of the requirements of the Model assignment produced detailed well-structured applied written evidence for this task which met the Assessment Criteria in relation to how their chosen dishes met the nutritional needs of their target group. However, for some Centres the covering of the Assessment Criteria for this task was clearly more challenging. Some candidates were not able to access the higher Performance Bands due to lack of understanding; application of nutritional knowledge and information not being directly related to the target group in the case study.

All candidates should be encouraged to ensure that when evaluating the fitness for purpose of their menu that there is a direct correlation between the Assessment Criteria and how they meet the needs of the specific group for which they have been planning. Detailed sensory analysis of finished menu is not mentioned on the Performance Band Criteria. Whilst the inclusion of some sensory evaluation may support evaluative comment it is important to ensure; given that this is a time-controlled assessment its inclusion is not at the expense of the required Assessment Criteria for the Task.

Some candidates were still seen to include work around costing. Costing is not mentioned on the Performance Band Criteria so candidates do not have to include this. Candidates need to be encouraged to respond to the command word on each of the Assessment Criteria. On their own a list of generic issues is not sufficient to achieve the higher Mark Band Performance Criteria.

See below for more detailed guidance for each AC section, which should enable centres to support the preparation of future candidates.

#### **AC1.4 Analyse risks associated with food safety**

The use of HACCP charts applicable to the chosen dishes could be used to demonstrate knowledge of the risks associated with food safety.

#### **AC2.1 Explain how nutrients are structured**

Diagrams of nutrient structure could be used to assist candidates to give a clear and detailed explanation. Nutrients need to be relevant to the case study. The reliance on the use of generic notes is to be discouraged.

#### **AC2.2 Classify nutrients in foods**

Links with the case study and practical assessment are required when classifying nutrients in food. Candidates need to identify main and secondary sources.

### **AC2.3 Assess the impact of food production methods on nutritional value**

Generic references should be avoided; discussion should be applied to the choice of dishes selected. Candidates should consider the loss and gain of relevant nutrients during production, food processing/preparation, as well as the cooking processes being demonstrated.

### **AC3.1 Describe functions of nutrients in the human body**

Functions must be identified and related to the target group within the case study. Where candidates had included generic tables they often omitted to apply the information which they had included.

### **AC3.2 Explain characteristics of unsatisfactory nutritional intake**

A clear focus should be kept on the target group and explanation of issues should relate directly to them. Encourage candidates to link nutritional deficiencies to those of Western cultures of 2022

### **AC3.3 Analyse nutritional needs of specific groups**

A clear focus should be kept on the target group in the Model Assignment and the analysis should focus directly on their specific nutritional needs.

### **AC3.4 Assess how different situations affect nutritional needs**

A clear focus should be kept on the target group; a wide range of situations which could directly affect their nutritional needs should be discussed; these could relate to health, occupation, activity level, religious beliefs, vegetarianism, dietary restrictions such as Coeliac or lactose intolerance, time of year, and the weather.

### **AC4.1 Evaluate fitness for purpose of diets**

The focus for this should be the chosen menu. Some Candidates were seen to evaluate a range of diet plans/diets rather than carrying out an analysis of their menu.

Candidates may have access to nutrition analysis software to enable them to analyse and discuss the nutritional suitability of their menu to their target group. It was noted that some Candidates were commenting on nutritional value of the whole product rather than individual portions.

### **AC4.2 Calculate nutritional requirements for given individuals**

Candidates should discuss in detail the nutritional requirements of the target group for which they are planning. Candidates should discuss the nutritional intake for key macro and micronutrients relevant to the life stage of chosen target group.

**Suggested action point taken from all centres moderated are as follows:**

**AC2.1 AC2.2 AC2.3 AC3.1 AC3.2 AC3.3 AC3.4 AC4.1 AC4.2**

The key element is on application to task and the avoidance of the inclusion of generic notes. Candidates need to be encouraged to apply their knowledge and understanding of nutrition to their target group whilst ensuring coverage at the appropriate level of the Assessment Criteria.

**AC2.3** When evaluating their menu candidates need to assess how the food production; preparation and cooking methods which they have used have impacted on the nutritional value of their dishes. How production methods of commodities used may also affect nutritional value in relation to loss and gain of specific nutrients.

Should an interview be conducted in which a candidate provides evaluative comments verbally; in addition to teacher annotation on the Observation Record Sheet an example of good practice as seen by Centres is where a copy of the questions and candidate responses are included as evidence. This makes it clear to see how marks were awarded. A comment on the mark record sheet “discussed in interview” that a particular AC has been covered is not sufficient evidence on its own to enable higher mark band to be awarded.

The Assessor Information which is included in the Model Assignment; provides clear guidance as to resources which Candidates’ may have access to for the interview.

“For task 3, learners may access class notes to prepare for the interview but cannot use them during the interview. They may however produce their own summary during the planning time which can be taken into the interview. This should be no more than one piece of paper.”

The interview is designed to support candidates in demonstrating a depth of understanding of the Assessment Criteria for this unit; the interview alone cannot be relied upon to facilitate/credit Assessment Criteria coverage.

### **Summary of key points**

Before embarking on the Model Assessment the Assessor needs to be familiar Assessor information; WJEC Approach to Assessment found in the Model Assignment. This provides guidance regarding the resources candidates can have access to for each task.

The Model Assignment is a summative assessment. Its purpose is to assess candidates’ knowledge skills and understanding gained through the delivery of the course. It is not the intention that it is an extended piece of controlled assessment as it has an allocated time control of 9 hrs. 30 mins.

In order to assist the moderation process it is helpful if candidates are encouraged to page number their work, An example of good practice as seen by use in centres has been where assessor annotation on the Mark Record Sheet makes reference to page number along with signposting of Assessment Criteria on candidates work. It is not the role of the moderator to mark or search for evidence of the assessment criteria on the candidates work.

Total marks need to be recorded on the front of the Mark Record Sheet not grades. Care should be taken when adding up marks, total on the Mark Record sheet should be the same as that entered on electronically. It is important to ensure that candidate numbers are also recorded on the front page of the Mark Record sheet.

This was the first year in which centres had been asked to upload Candidate work and supporting documentation for moderation. Moderators were extremely patient with the variety of ways in which they had to access this but, in some cases, it was extremely time consuming and not sustainable. Moving forward it would be appreciated if work was either uploaded as one document or no more than two, one containing all the supporting documentation and one the candidate work. All uploads need to be clearly labelled as to the contents. Thank you very much to centres who had obviously thought about this as it was really appreciated by moderators when they were able to access work and documentation easily.



# FOOD SCIENCE AND NUTRITION

## Level 3 Certificate

Summer 2022

### UNIT 3 – EXPERIMENTING TO SOLVE FOOD PRODUCTION PROBLEMS

#### General Comments

In order to assist the moderation process, it is helpful if candidates are encouraged to page number their work. An example of good practice as seen by use in other centres has been where assessor annotation on the Mark Record Sheet makes reference to page number along with signposting of Assessment Criteria on candidate's work. Total marks need to be recorded on the Mark Record Sheet.

The completion of the Observation Record Sheet is essential for any practical work carried out for this Unit, in order to make it clear where credit has been awarded.

It is good practice for each Candidate to include a front cover with;

- Unit number and title
- Candidate name and number
- Centre name and number
- Model assignment which has been selected

#### Comments on individual questions/sections

There was a range of work presented for moderation, where done well, there were some excellent examples of food science, understanding of the properties of food and analysis.

There were some weaker areas and those seem to have a common theme across centres:

**2.2 Success Criteria**, while some centres are now clearly addressing SMART criteria, there is a trend to just complete a hypothesis and not measurable criteria.

**2.5 Review of methodology**, there was some improvement this year but it still remains an area for improvement.

**3.3 Scientifically justify proposed option**, this was done well in candidates that were consistently achieving upper band marks. However, it was a weakness for some candidates. To improve attainment in this area, this should be presented as a report to the manufacturer in the case study., this can be in the form of a story board, a power point or a letter. It is vital that primary and secondary data is used to help justify the proposed new recipe and any evidence should use scientific and technical terminology.

In nearly all cases the correct model assignments were used. These are available on the WJEC website. Mark Record Sheet along with signposting of Assessment Criteria on candidates work and the inclusion of clear photographs of experimental work all help assist the moderation process, again this was addressed by many centres, some still lacked clarity or photos, which was a shame as they do help justify the marks awarded.

## **Experimenting to solve food production issues**

### **LO1 Understand the scientific properties of food**

#### **AC1.1 Explain how food properties can be changes**

#### **AC1.2 Explain variables that affect physical properties of food**

Understanding of how properties of food can be changed was completed well across the centres, these need to be relevant to the chosen assignments and relate well to the ingredients used in the recipe. A wide range of variables need to be identified and explained. It was pleasing to see many candidates demonstrated an excellent understanding of this and were awarded the higher mark bands.

### **LO2 Be able to scientifically investigate changes to food**

#### **AC 2.1; 2.2; 2.3; 2.4; 2.5**

#### **AC2.1 Set success criteria for scientific investigations**

Candidates across many centres had addressed the issues and set clear aims for success which were relevant to the production problems. However, SMART criteria were not always used, at times Smart criteria was discussed but not linked to the actual criteria set by the candidate. Identifying success criteria which is clear, measurable and appropriate is an essential part of the process, enabling candidates to evaluate the results of experimental work with clear focus. As part of the planning, each experiment carried out must state the aims to be achieved. In order to achieve marks in the higher mark band candidates need to produce the problem products **using an original recipe** and then evaluate the outcome before considering which modifications to make.

#### **AC2.2 Obtain outcomes from scientific investigations**

In many cases this was done well, some great scientific experiments had been successfully carried out. Several experiments (min of 4/5) are needed to investigate the solution to each problem. The experiments need to be relevant to the aims identified from AC2.1. it is vital that practical experimental work records the amounts and methods which are used with a varied combination of different ingredients.

It is important that the Observation Record is completed by the assessor to support the experimental work carried out by the candidate.

#### **AC2.3 Record outcomes of investigative work**

#### **AC2.4 Process the data**

Across all the centres there was a wide variety of different recording methods used to show the results from the experimental work. Again, this was pleasing to see. This data must be clear and realistic conveying a basis on which to make reasoned judgments. This could include tables, star profile tasting, pie/ bar charts and photographs. In particular, it is useful to see good quality photographs clearly showing the quality of the textures and cross section photographs enabling candidates to make meaningful observations and more detailed evaluations. Each investigation must be analysed with candidates referring back to the original success criteria allowing conclusions to be drawn.

## **AC2.5 Review suitability of investigative methods**

While some candidates had complied this Assessment Criteria well, achieving the upper band marks, across most candidates work it was a relative weakness. Candidates must review what went well/not well for carrying out each experiment explaining the limitations in relation to ingredients used, equipment and time. Discussing bias could also be considered here as a way of addressing the specific criteria.

## **LO3 Be able to solve food production problems**

### **AC 3.1; 3.2; 3.3**

#### **AC3.1 Analyse food production situations**

Again this section was completed accurately across many candidates work and where done well information had been analysed relating to the food production situation. Candidates need to be able to categorise the issues to clearly identify what the problems are. The limitation of ingredients and equipment used should be applied to the problems in the brief. Application and analysis must be completed for the higher mark bands.

#### **AC3.2 Propose practical options to solve food production problems**

#### **AC3.3 Scientifically justify proposed options**

Many candidates performed well in this section but across all centre it was it was presented without the scientific and technical detail expected for level 3. Candidates need to produce a revised detailed recipe and advice on method of making for the product successfully addressing the initial problems. This can be presented as a report, letter, PowerPoint or story board. to the manufacturer explaining clearly what the issues were during production with detailed suggestions for improvements. These must be explained well to justify the new proposed recipe. The use of both primary and secondary data supported the findings and final report. It is here that the candidates can demonstrate their knowledge of the science and function of ingredients.

Some candidates presented work that was worthy of full marks: they were scientifically accurate, investigations demonstrated **a range of** food properties, the data was presented with a variety of recording methods, bias was discussed, and this was all relevant to the task.

A minimum of at 5 investigations were presented and a report in the format of a letter, PowerPoint or story board.

## **Summary of key points**

It is important to ensure the specification and marking scheme are adhered to for the assignment as at times research and/or superfluous work should not be included. Where this was included this year it must have used the time allowed for the candidates but did not address any of the Assessment Criteria, hence was of no worth.

Marking was at times too generous, as essential criteria hadn't been covered. Clear adherence to the marking scheme can help identify in which band the candidate should be assessed, remember it's cumulative so you don't have to award the same band for each AC.

Candidates adhering to the Assessment criteria will help focus their work and will aid the marking of unit 3.

WJEC has exemplar materials on the secure website for all assessments that can be used to benchmark marking.

WJEC will be offering Face to Face and on-line CPD for all units during the Autumn Term 2022, booking is available via the website

# FOOD SCIENCE AND NUTRITION

## Level 3 Certificate

Summer 2022

### UNIT 4 - CURRENT ISSUES IN FOOD SCIENCE AND NUTRITION

#### General Comments

This year candidates have submitted a variety of topics. The environment continues to be a popular topic but care should be taken to avoid broad areas of focus. Candidates can get lost if the scope is too large, for example, when considering worldwide issues. It may be better to focus on a smaller environmental issue, maybe one which could be studied locally.

The pandemic as a focus area was also evident in candidates work with many choosing to study its effect on eating habits. Sadly, food poverty was also high on the list of topics studied but it is of course relevant and current. School meals were also a popular topic and this topic allows the inclusion of stakeholder responses to be completed quite easily.

There were also many submissions on food in social media, whilst this is a current topic, care should be taken that this does not become a media studies or psychology task, with perceptions of food being difficult to assess, in a suitable manner for this subject.

Some really interesting work was produced on food of the future with some candidates choosing to study new sources of nutrition. Sustainability is always a popular choice and there were many studies focussing on how we produce food.

It will be interesting to see if candidates respond to food shortages as an issue in future and how food wastage can be avoided.

There were some studies of vegetarianism and some interesting studies of the effects of nutrition on health, often using personal experiences which really helped completion of the stakeholders' responses.

Care should be taken to ensure candidates consider both sides of the argument for any proposal or topic. Where candidates have strong opinions, for example, on ethical issues in food, they can find it difficult to consider another point of view. It is important to keep an open mind during investigations.

Whilst many formats are accepted it is essential to identify where research is primary or secondary and a scientific approach is essential.

Centres who have used headings such as aim, method, results and conclusion during each investigation have had better analysis and evaluation as a result. LO3 should be a distinct section where each piece of research is presented using clear headings.

Some centres use assessment criteria as headings which is appropriate but for this Unit less common, generally the work must follow a logical order and should be completed in a realistic amount of time as described in the model assignment.

At this level it is necessary to reference all research and use a bibliography. This provides good experience for study at a higher level. There are various styles and conventions possible.

### **Comments on individual questions/sections**

#### **AC1.1 Propose research into a current issue related to food science and nutrition**

It is not necessary to mind map large numbers of possible topics before choosing the topic to be studied. The topic to be studied should be phrased as a question. It is not necessary to form large numbers of aims as this can cause candidates to lose focus. At this stage stakeholder should be identified. A hypothesis should be written as a prediction that can be proved or disproved, this should be concise. When setting out the rationale, it is not necessary to produce large amounts of initial research to justify the choice of topic, a simple explanation of why it is relevant and current will suffice.

#### **AC1.2 Plan research into a current issue**

Many candidates have produced multiple or lengthy aims. This often results in confusion or time being wasted on irrelevant content. Aims and objectives must be relevant to the topic and clearly linked to the research to be produced. It is better to have fewer aims which are then researched in detail than lots of aims which are addressed in a superficial manner.

#### **AC1.3 Justify plan for research**

Centres that present advantages and disadvantages of each method should ensure that these are linked or applied to a specific aim. A select and reject process allows for clear evaluation and justification to take place. It must be clear how the method chosen will help to prove or disprove the hypothesis.

#### **AC2.1 Monitor project progress**

Many centres use a table format for the plan and include a column where monitoring can be recorded. For higher marks it is necessary for comments on completion to take place. This should be completed as the task progresses, not as an afterthought and the plan should change if needed.

#### **AC2.2 Evaluate research project**

This should be part of the monitoring. It is essential to evaluate each piece of research. Encourage candidates to ask themselves whether their format has produced useful data. It is also important to consider each piece of research as they are completed, not as an afterthought. Identify any weaknesses or limitations of research completed and where possible correct the issue. Candidates need to describe the usefulness of the methods, in an analytical manner.

#### **AC3.1 Describe research methodology**

Primary research should be created using a variety of formats and it is essential to describe how fair, objective, reliable results have been produced. Secondary resources should be examined to ensure they are reliable and genuine. This is often a weak area.

### **AC3.2 Design primary research tools**

Nearly every candidate produces a questionnaire but many forms of data collection are available and a variety of research is required. Practical work is encouraged. Nutritional analysis, product analysis, surveys, interviews and comparison tests are all useful along with many other forms of research. For higher marks, candidates should demonstrate ability to present results of research in a variety of formats. It should be clear how the methodology has been addressed for each tool produced.

### **AC3.3 Analyse data**

This is often a weak area. The use of aim, method, results and conclusions for each piece of research can help candidates keep track of their results. Relevant trends and patterns should be identified. Links with secondary research identified. Data should be presented in suitable formats. Charts can help candidates display results but analysis of these results is essential. A range of results should be presented and compared.

### **AC3.4 Evaluate quality of information**

The quality of the collected data should be examined and discrepancies identified and discussed. How has bias been identified and reduced? Does the collected data help prove or disprove the hypothesis? A range of results is necessary for thorough research and higher marks should not be awarded when only one method has been used. Have all aims and objectives been addressed?

### **AC4.1 Analyse current issues related to food science and nutrition**

This should bring all results together for discussion. Candidates should refer back to the initial question posed. It should also refer back to the hypothesis. Has it been proved or disproved? The results of each piece of research should be summarised and analysed and an overall conclusion reached.

### **AC4.2 Evaluate how key stakeholders respond to current issues**

The stakeholders identified should be included in the evaluation. Many candidates identify stakeholders but do not seek their response to the research produced. This is often a weak area. It is essential to include the opinions and comments of those affected by the issue. Primary research should be used to seek out opinions of a range of stakeholders on conclusion of the research.

### **Summary of key points**

This year we had many centres submitting for the first time. We strongly recommend that centres refer to exemplar materials provided on the Eduqas/ WJEC secure website for further guidance and examples of suggested formats.

Many centres produced a format that was more of a summary of research completed. In order to access higher marks, submissions should include a variety of primary research tools, which must be presented in order for moderators to see how they have been designed to be fit for purpose, including how they avoid bias and produce reliable results.

Further guidance is also available through CPD – bookable via the WJEC website.

Care should be taken to ensure candidates consider both sides of the argument for any proposal or topic. Where candidates have strong opinions, for example, on ethical issues in food, they can find it difficult to consider another point of view. It is important to keep an open mind during investigations.





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