



T Level Technical Qualification in Science

Occupational specialism assessment (OSA)

Food Sciences

Assignment 4 - Pass

Guide standard exemplification materials

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Food Sciences

Assignment 4

Contents

Introduction	3
Task 1	4
Task 2	7
Examiner commentary	8
Overall grade descriptors	9
Document information	11
Change History Record	11

Introduction

The material within this document relates to the Food Sciences occupational specialism sample assessment. These exemplification materials are designed to give providers and students an indication of what would be expected for the lowest level of attainment required to achieve a pass or distinction grade.

The examiner commentary is provided to detail the judgements examiners will undertake when examining the student work. This is not intended to replace the information within the qualification specification and providers must refer to this for the content.

In assignment 4, the student must analyse and interpret data and identify opportunities for improvement.

After each live assessment series, authentic student evidence will be published with examiner commentary across the range of achievement.

Task 1: collect, analyse and interpret food production data

Your new factory manager wants to have a better understanding of your site. They have asked you to analyse relevant data on customer requirements, food safety, productivity and quality and present it to them in a report.

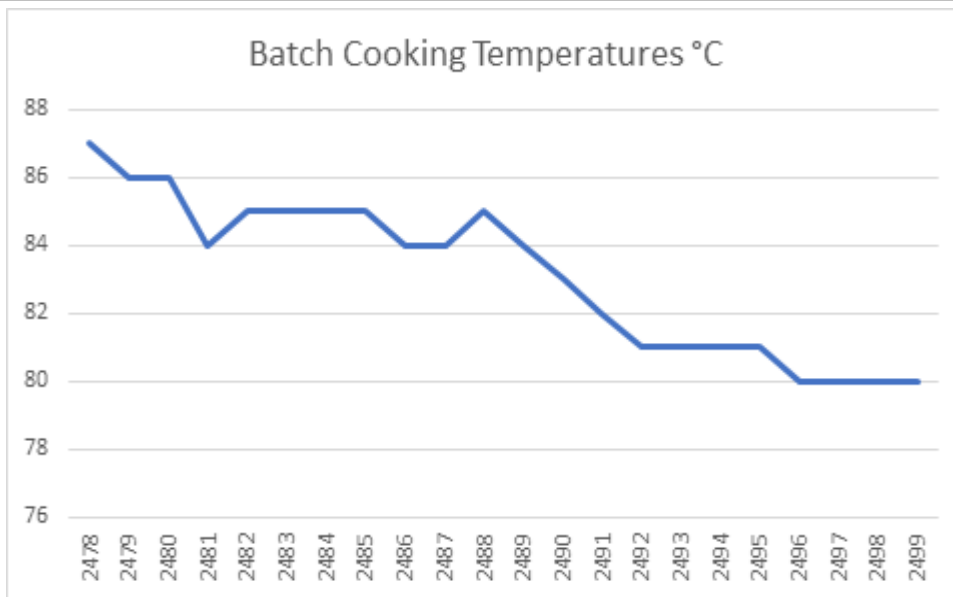
You will be provided with the raw data you will need in a spreadsheet format. You may use spreadsheet software, or any other appropriate software to analyse and present this data for your report.

(24 marks)
2 hours 30 minutes

Student evidence

Complaints data - food safety and quality





There are numerous complaints during the last year and they can be split down into 4 key areas, which are food safety, quality, process and suppliers.

Food Safety

1. There are 4 foreign body complaints for the beef casserole, and we have received 11 complaints of mould for the chicken casserole. As this affects the safety of the product and it can be dangerous for the consumer, corrective actions need to be put in place.
2. Some batches of chicken casserole did not achieve a temperature $<5^{\circ}\text{C}$ within 120 minutes and had to be cooled for a further period. This is also a breach of food safety. It is essential that a clear procedure and monitoring sheet are drawn up and all operators trained as this is a clear food safety breach.

Quality

1. There were over 20 quality complaints during the period. During the period of the 13 to 19 April, the temperature of the product was constantly above 80°C and this can cause the product to dry out.
2. At the taste panel on the 15 and 17 April, it was noted that there was a lot of fat and gristle on the beef, and the supplier has already been told about this.

Suppliers

1. There is a goods received note GRN for a delivery on 6 April from BFG for both celery and salt. Celery is an allergen so it should not be on the same supplier note as the salt.
2. One of the suppliers sent chicken stock powder on the 6 April and said it contained gluten but the chicken stock powder they sent on the 14 April did not mention gluten. As gluten is an allergen, we would need to find out if it does contain gluten or not.

Process

1. Goods in records are not always being completed correctly.
2. Chiller temperatures are not being monitored all the time. There have been times when the chiller temperature in each of the areas, goods in, production and despatch has gone up to 6° and no action has

been taken. We do not know who has been checking them at all and what times they were checked.

Further investigation is required as shown below

1. Root cause analysis of food safety complaints both for foreign body and mould. We do not know what the foreign body was so cannot say what caused it.
2. The following supplier issues to be addressed: BFG – allergen procedure; Sapphire Supplies – allergen procedure; Diamond Produce – pest infestation of carrots.
3. All monitoring records should be updated to include a signature for whoever carried out the task.

Task 2: continuous improvement opportunities

Based on your analysis:

- describe 3 opportunities for continuous improvement, such as process improvements or cost savings
- discuss potential technological solutions to reduce any errors in data collection, including the advantages and disadvantages of each suggested solution

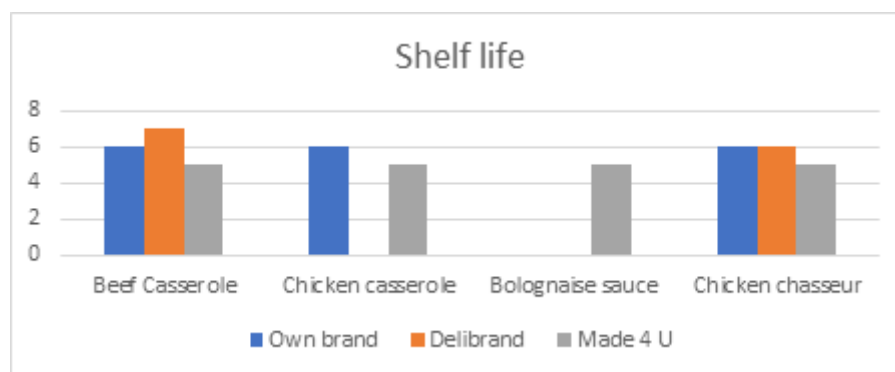
(18 marks)

2 hours

Student evidence

Opportunities for CI

1. The shelf life could be changed to 7 days for the beef casserole and 6 days for the chicken casserole and chicken chasseur. This would help save time as production could make bigger batches and the shelf life would still meet the customer specification.



2. There is a lot of product given away free to the customer as packs have been found to be overweight and this adds up over the year. Packs should not vary so much in weight.
3. Documentation is often not being filled in correctly, or there is missing information which would help us make safer products. For example, it would be good to have more information on customer complaints as it would be easier to find out the cause.

Technological solutions to reduce any errors in data collection

1. Handheld data loggers can be used to check the temperature of the product. This would make sure it happens all the time and we can spot if something is not right. A data logger would provide the accurate data at the right time. This would save time on paperwork and help to maintain accurate records.
2. Complaints database - there is very little data appeared to be held for customer complaints. A customer complaints database should be put in place saying what the actual complaint is (for example, hair in food, fatty beef). We then know what to look out for to stop it happening again.
3. Electronic check weighers could be introduced to stop the number of overweight packs. This would save on wastage as we are currently giving this to the customer for free.

Examiner commentary

The student has made use of some relevant regulatory, food safety and food quality information available from various sources such as customer requirements, complaints and process flow with some documentation such as chiller temperatures, monitoring sheets and taste panel records. This has enabled the student to highlight 4 key trends – food safety (foreign body and mould), quality (overcooking, fat), supplier issues (poor allergen control, stock rotation and pest infestation) and areas of the process where it does not appear to have been correctly followed (incomplete documentation).

The information has been presented both graphically and verbally, and clearly split down to the key trends. Out of tolerance results such as chilling times, goods in checks and issues with supplier assurance have been identified. By putting this information into a logical format, the student has been able to propose corrective actions that were previously taken and areas for further investigation have been highlighted. The student has also highlighted basic follow-up actions that are standard within industry but has not always provided sufficient depth within the response to identify possible causes.

The student has utilised relevant industry knowledge to identify 3 basic CI opportunities that could be undertaken and all of which could lead to savings through waste reduction, either through standardisation of product or documentation and reduction of product waste. Standard technological solutions have been suggested that the student would expect to find in any well-run food business operation.

Overall grade descriptors

The performance outcomes form the basis of the overall grading descriptors for pass and distinction grades.

These grading descriptors have been developed to reflect the appropriate level of demand for students of other level 3 qualifications, the threshold competence requirements of the role and have been validated with employers within the sector to describe achievement appropriate to the role.

Occupational Specialism overall grade descriptors:

Grade	Demonstration of attainment
Pass	The evidence is logical but displays minimal knowledge in response to the demands of the brief.
	The student makes some use of relevant knowledge and understanding of how it informs practices of the sector and demonstrates a limited understanding of perspectives or approaches associated with food science and food product development processes.
	The student makes adequate use of facts/theories/approaches/concepts/data and attempts to demonstrate breadth and depth of knowledge and understanding.
	The student is able to identify some information from appropriate sources and makes use of appropriate information/appraise relevancy of information and can combine information to make decisions and recommendations.
	The student makes minimal judgements/takes appropriate action/seek clarification with guidance and is able to make limited progress towards solving non-routine problems in real life situations.
	The student attempts to demonstrate skills and knowledge of the relevant concepts and techniques reflected in a food science and/or food product development role and generally applies this across different contexts.
	The student shows adequate understanding of problems that have not been seen before, using limited knowledge to find solutions to problems and make justification for strategies for solving problems, explaining their reasoning.
Distinction	The evidence is precise, logical and provides a detailed and informative response to the demands of the brief.
	The student makes extensive use of relevant knowledge and has extensive understanding of the practices of the sector and demonstrates an understanding of the different perspectives/approaches associated with food science and food development processes.
	The student makes decisive use of facts/theories/approaches/concepts/data, demonstrating extensive breadth and depth of knowledge and understanding and selects highly appropriate skills/techniques/methods.
	The student is able to comprehensively identify information from a range of suitable sources and makes exceptional use of appropriate information/appraises relevancy of information and can combine information to make coherent decisions.
	The student makes well founded judgements/takes appropriate action/seek clarification and guidance and is able to use that to reflect on real life situations in a food science and/or food development role.

	<p>The student demonstrates extensive knowledge of relevant concepts and techniques reflected in a food science and/or food development role and precisely applies this across a variety of contexts and tackles unstructured problems that have not been seen before, using their knowledge to analyse and find suitable solutions to the problems.</p>
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Document information

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Owner: Head of Assessment Design

Change History Record

Version	Description of change	Approval	Date of Issue
v1.0	Published final version.		July 2021
v1.1	NCFE rebrand		September 2021