

T Level Technical Qualification in Science

Occupational specialism assessment (OSA)

Food Sciences

Assignment 2

Assignment brief

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Timings

You have 7 hours 30 minutes to complete the tasks within this assignment. Your tutor will provide details of how this time will be split up, and over how many days or sessions. Some tasks will not require the full allocated time; the guidance is a maximum, to account for potential choices by students, to complete the tasks (for example, cooking time, number of people in taste panel). Some tasks are partially completed alongside other tasks, though time is still accounted for them in total. Overall, no more time than the allocated 7 hours 30 minutes can be taken, and NCFE recommend not using more than the guidance per task.

- task 1,2 & 3 – 2 hours 45 minutes
- task 4,5 & 6 – 2 hours 15 minutes
- task 7, 8, 9 & 10 – 2 hours 30 minutes

SAMPLE

Scenario

Having completed the planning stages involved in your product development, you will need to develop samples of your product for analysis.

Performance outcomes

PO2: Develop new food and food related products to support the food supply chain

Tasks

Task 1

Carry out a health and safety risk assessment of your proposed production processes. This should be completed using the risk assessment template and matrix provided.

(12 marks)

30 minutes

Task 2

Produce kitchen samples of your product for analysis. Samples should be labelled appropriately to enable safe handling, and to be safe for consumption. Records should be kept of:

- equipment used
- changes to recipe and/or process, and reasons for the changes

(14 marks)

2 hours

Task 3

Accurately record all of the production data from your process which may include:

- time and temperature data
- ingredient details (for example weights, batch numbers)
- measurements related to product safety characteristics

(9 marks)

15 minutes

(Suggested time for tasks 1, 2 & 3) 2 hours 45 minutes

Task 4

Carry out a taste panel for your product, using a minimum of 8 participants. Your panel should cover at least 3 sensory characteristics related to the product. Create a questionnaire for them to complete, then evaluate the feedback and produce a report to include recommendations for further development.

(12 marks)

1 hour 30 minutes

Task 5

Provide details of recipe formulation, including:

- how it contributes to the desired organoleptic properties
- considerations for at least 2 potential ingredient substitutions and alternatives

(9 marks)

15 minutes

Task 6

Explain:

- a) the advantages and disadvantages of the specific processes you used in the development of your product
- b) the impact on your product's shelf life, nutritional content, and organoleptic properties as a result of the specific processes used

Processes may include:

- energy transfer
- heat processing
- heat removal
- ambient temperature processing technologies

(12 marks)

30 minutes

(Suggested time for tasks 4,5 & 6) 2 hours 15 minutes

Task 7

Create a mock-up of your product packaging to include all mandatory labelling requirements.

Marks will be awarded on the physical aspects of the packaging, such as materials used, size of packaging, and mandatory labelling. No marks are awarded for the design elements on the packaging, or any non-mandatory labelling.

(8 marks)

1 hour

Task 8

Complete a sustainability study of the product and prepare a report that includes:

- any potential sustainability issues
- any mitigation strategies that can be used to minimise the environmental impact of the product

(12 marks)

30 minutes

Task 9

a) Select the most appropriate test methods for each stage of the process to:

- ensure compliance with raw material and finished product specifications
- demonstrate product organoleptic, safety and quality compliance

b) For each test method selected above, describe the monitoring activities to verify compliance.

(12 marks)

30 minutes

Task 10

Assess the product formulation and processing conditions, identifying what worked well and any areas for improvement

(12 marks)

30 minutes

(Suggested time for tasks 7, 8, 9 & 10) 2 hours 30 minutes

Risk assessment guidelines

These guidelines are to help you complete your risk assessment.

Section 1:

- identify and list any hazards that you feel apply to your activity
- identify the people that could be harmed by this hazard
- using the risk matrix below, identify the risk level that this hazard presents
- think about the control measures that you can put in place to reduce this risk of the individual hazards
- using the risk matrix below, identify the new risk level now that control measures are in place to control the hazard and reduce the risk of injury (please note that the severity level will not always alter only the likelihood)
- continue on a separate sheet if necessary

Finally:

- sign and review

SAMPLE

Risk matrix

Risk matrix – evaluation of risks								Action level
Likelihood	Almost certain	5	5	10	15	20	25	20 to 25 STOP
	Highly likely	4	4	8	12	16	20	
	Likely	3	3	6	9	12	15	12 to 16 URGENT
	Unlikely	2	2	4	6	8	10	8 to 10 ACTION
	Extremely improbable	1	1	2	3	4	5	4 to 6 MONITOR
		X	1	2	3	4	5	1 to 3 NO ACTION
			Minimal	Minor injury	7 Day + Injury	Serious or major injury	Severe	
			Consequence					

Risk assessment form

Person carrying out risk assessment:		<table border="1"> <thead> <tr> <th>Those at risk</th> <th>Key</th> </tr> </thead> <tbody> <tr> <td>Own staff</td> <td>OWN</td> </tr> <tr> <td>Venue staff</td> <td>VEN</td> </tr> <tr> <td>Organisers</td> <td>ORG</td> </tr> <tr> <td>Visitors</td> <td>VIS</td> </tr> <tr> <td>Public</td> <td>PUB</td> </tr> <tr> <td>Contractors</td> <td>CON</td> </tr> <tr> <td>All persons onsite</td> <td>AOS</td> </tr> </tbody> </table>	Those at risk	Key	Own staff	OWN	Venue staff	VEN	Organisers	ORG	Visitors	VIS	Public	PUB	Contractors	CON	All persons onsite	AOS
Those at risk	Key																	
Own staff	OWN																	
Venue staff	VEN																	
Organisers	ORG																	
Visitors	VIS																	
Public	PUB																	
Contractors	CON																	
All persons onsite	AOS																	
Person(s) responsible on site:																		
Venue:																		
Work activity:																		
Date of assessment:																		

Please read the guidelines prior to completing your risk assessment

Section 1

Hazard	Who might be harmed? (see 'those at risk', above)	Likelihood	Severity	Total risk level	Control measures (add any other control measures you will use)	Likelihood	Severity	Res. risk level

Hazard	Who might be harmed? (see 'those at risk', above)	Likelihood	Severity	Total risk level	Control measures (add any other control measures you will use)	Likelihood	Severity	Res. risk level

By signing the declaration below, you have agreed that you will put the appropriate control measures in place to ensure that hazards are reduced and that the risks applicable to your stand are controlled.

Signed	
Print name	
Review date	

Document information

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Owner: Head of Assessment Design

Change History Record

Version	Description of change	Approval	Date of Issue
v1.0	Post approval, updated for publication.		January 2021
v1.1	NCFE rebrand.		September 2021
v1.2	OS review Feb 23		February 2023
v1.3	Sample added as a watermark	November 2023	21 November 2023