



## **National Unit specification: general information**

**Unit title:** Food Manufacture: Food Production (SCQF level 6)

**Unit code:** H1NF 12

**Superclass:** WM

**Publication date:** November 2014

**Source:** Scottish Qualifications Authority

**Version:** 02

### **Summary**

The purpose of this Unit is to give candidates an overview of the structure of the food and drink manufacturing industry from field to table. The content will introduce candidates to the processing and manufacturing operations undertaken in a range of sectors. This is a mandatory Unit within the National Progression Award in Food Manufacture at SCQF level 6. It can also be taken as a free standing Unit.

This Unit is suitable for candidates who are hoping to gain employment in the food production or processing industry. It is also suitable those who are employed but wish to broaden their knowledge and skills in the food manufacturing industry. It aims to facilitate progression to further study including into Higher National and degree programmes in Food Science and Technology.

### **Outcomes**

- 1 Investigate the structure of the food production and processing industry.
- 2 Research the principles and outline the processes used in the manufacturing of food and drinks.
- 3 Investigate a specific food or drink product from 'field to table'.

### **Recommended entry**

While entry is at the discretion of the centre, candidates would normally be expected to have attained one of the following, or equivalent qualifications or experience.

- ◆ Numeracy and Communication at SCQF level 5
- ◆ Science or Health and Food Technology at SCQF level 5

## General information (cont)

**Unit title:** Food Manufacture: Food Production (SCQF level 6)

### Credit points and level

1 National Unit credit at SCQF level 6: (6 SCQF credit points at SCQF level 6\*)

*\*SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

### Core Skills

Achievement of this Unit gives automatic certification of the following Core Skills component:

Complete Core Skill                      None

Core Skill component                      Critical Thinking at SCQF level 5

There are also opportunities to develop aspects of Core Skills which are highlighted in the Support Notes of this Unit specification.

## **National Unit specification: statement of standards**

**Unit title:** Food Manufacture: Food Production (SCQF level 6)

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

### **Outcome 1**

Investigate the structure of the food and drink production and processing industry.

#### **Performance Criteria**

- (a) Investigate the infrastructure of a food/drink production/processing facility.
- (b) Evaluate how the various departments within a production/processing facility work together to produce a finished product.

### **Outcome 2**

Research the principles and outline the processes used in the manufacturing of food and drinks.

#### **Performance Criteria**

- (a) Describe the processes used in the food industry.
- (b) Research which principles are applied to given foods and drinks.

### **Outcome 3**

Investigate a specific food or drink product from 'field to table'.

#### **Performance Criteria**

- (a) Investigate within the food and drink facility how the raw materials are prepared and processed.
- (b) Evaluate the precautions that are in place to ensure that the food/drink product is fit for purpose.
- (c) Discuss how the food/drink product is transported from the facility to the end users.

## **National Unit specification: statement of standards (cont)**

**Unit title:** Food Manufacture: Food Production (SCQF level 6)

### **Evidence Requirements for this Unit**

Written and/or oral recorded evidence is required in an open-book assessment to demonstrate that candidates have achieved all of the Outcomes and Performance Criteria.

Candidates must provide comprehensive evidence showing a depth of understanding and knowledge in the area of food production. Evidence can be generated holistically for all three Outcomes.

The evidence must include:

- ◆ Investigation into the organisation of an agreed food or drink processing facility to evaluate how the various sections work together to produce an end product.
- ◆ Description of the specific processing techniques employed in the manufacture of a specific food or drink.

Candidates need to select an agreed food or drink product from a specific processing facility. All aspects from the field to table need to be investigated. This would include:

- ◆ Research and development– consumer research, market research, packaging and label design.
- ◆ Sourcing raw materials for products.
- ◆ Experimental kitchen testing of new products and the use of different ingredients to produce new products.
- ◆ Raw material production and handling.
- ◆ Processing departments such as canning, freezing, pasteurisation, irradiation, distillation and ambient treatments required for products.
- ◆ Quality Assurance and Control — evaluate HACCP processing of the product in the facility to ensure that HACCP procedures are followed.
- ◆ Packaging and label design.
- ◆ Storage and distribution of product ensuring quality of the product.
- ◆ Market research on sales.

## National Unit specification: support notes

### Unit title: Food Manufacture: Food Production (SCQF level 6)

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

### Guidance on the content and context for this Unit

This is a mandatory Unit within the National Progression Award in Food Manufacture at SCQF level 6. It can also be taken as a free-standing Unit.

The purpose of this Unit is to give candidates an overview of the structure of the food and drink manufacturing industry from gate to the plate and to introduce them to the processing and production operations undertaken in a range of sectors. Candidates will develop a knowledge and understanding on how the departments within a food manufacturing processor all play an important role in producing the final end product. Candidates will investigate the various processing techniques employed by the food industry and evaluate why these techniques are used for specific food products.

### Outcomes 1–3

A comprehensive research portfolio on an agreed food or drink product could be produced that contains aspects from each of the Outcomes. The portfolio could be tailored to suit individuals already working within a specific food or drink industry or individuals wishing to specialise in particular areas. A presentation of the findings of the research into an agreed food or drink product should be delivered.

Candidates need to select an agreed food or drink product from a specific processing facility. All aspects from the gate to the plate need to be investigated. This would include looking at:

- ◆ research and development
- ◆ sourcing raw materials for products
- ◆ experimental kitchen testing of new products
- ◆ raw material production and handling
- ◆ quality assurance and control
- ◆ packaging and label design
- ◆ storage and distribution of product ensuring quality of the product
- ◆ market research on sales

The criteria for this Outcome could be based on a local or globally produced food or drink.

To ensure that the candidates can achieve Outcomes 1–3 the generic infrastructure of a food/drink facility should be highlighted and various production and processing techniques described.

## National Unit specification: support notes (cont)

**Unit title:** Food Manufacture: Food Production (SCQF level 6)

Teaching of this Unit should include the following points:

Research and development — consumer research, market research, packaging and label design

Experimental kitchens — the use of different ingredients to produce new products

Quality Assurance and Control — evaluate HACCP

Production department — handle and prepare raw materials

Processing department — canning, freezing, pasteurisation, irradiation, distillation and ambient treatments required for products

Storage Facilities — ensuring quality of the product

Distribution — methods to move products from the facility to the end user

This Unit is aligned to the following National Occupational Standards (NOS) from Improve in Food Manufacture: Food Production:

- ◆ understand how to contribute to cross functional team work in a food business —
- ◆ IMPOM110K
- ◆ understand how to analyse and select areas for achieving excellence in a food environment — IMPQI267Kv1
- ◆ principles of food labelling in food and drink — IMPFT155K
- ◆ principles of canning in food technology — IMPFT150K
- ◆ principles of freezing methods in food technology — IMPFT123K
- ◆ principles of irradiation in food technology — IMPFT149K
- ◆ principles of pasteurisation and sterile filtration for packaging in brewing — IMPBW203Kv1

In addition there may be specific NOS that this Unit relates to, which will depend on the food or drink manufacturing industry investigated by the candidate.

In this Unit candidates are required to produce a comprehensive evidence and research incorporating Outcomes 1–3. They will investigate the organisation of a food producer/processor and how they collaborate to produce the end product.

Various manufacturing techniques will be investigated and their suitability for processing specific foods and drinks evaluated. A specific food or drink will then be researched from primary producer to end consumer — the field to table theory.

Candidates would benefit from having knowledge and/or skills from a specific food production area but this is not essential. A basic knowledge of a science based subject would also be beneficial but not essential.

This Unit could be integrated with employers progression schemes to allow employees the opportunity to progress.

This Unit could also be used to prepare candidates for progression into university degree programmes, further and higher education in various food related subjects including BSc in Food Science and Technology.

## **National Unit specification: support notes (cont)**

**Unit title:** Food Manufacture: Food Production (SCQF level 6)

### **Guidance on learning and teaching approaches for this Unit**

Delivery of this Unit should be as practical as possible.

For Outcomes 1–3 candidates would benefit from:

- ◆ Working in small groups to research various departments within the food production/processing industry and produce a presentation.
- ◆ Having visits from processing specialists and producers for the food industry.
- ◆ Going on trips to local factories to observe the various processing techniques employed.
- ◆ Working individually to research and produce a comprehensive portfolio.

### **Essential skills development**

By adopting the learning and teaching approaches highlighted above and in the Outcomes and corresponding Evidence Requirements, this Unit will provide candidates with the opportunity to develop the following essential skills for life, learning and work:

- ◆ Time management by meeting assignment deadlines and completion of tasks.
- ◆ Analytical and interpretative skills by analysing data and collecting information.
- ◆ Presentation skills by producing information to be shared with other class mates.
- ◆ Independent learning by producing individual reports and portfolios.
- ◆ Responsibility by taking charge of their learning and producing the Outcomes required.
- ◆ Confidence by working and presenting information to classmates as well as meeting individuals from industry.
- ◆ Citizenship by making links with industry.

### **Guidance on approaches to assessment for this Unit**

Evidence for this Unit may be produced holistically. Candidates could produce a comprehensive research portfolio and research presentation covering Outcomes 1–3.

If candidates have varied food manufacturing interests, opportunities may exist for the assessment brief to be tailored to meet individual areas of interest. Alternatively, candidates could work on a single theme determined by the centre.

Information could be gathered by a range of methods and may involve a mix of individual, small group or class work. Centres must be satisfied however that the final evidence submitted is the work of the individual candidate and that the candidate has participated actively in all group activities. Time should be allowed for reassessment. Where the Unit is assessed holistically candidates need only be reassessed on those elements that have not met the Performance Criteria.

## National Unit specification: support notes (cont)

**Unit title:** Food Manufacture: Food Production (SCQF level 6)

### Opportunities for the use of e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

### Opportunities for developing Core Skills

In this Unit candidates will develop knowledge and understanding of the infrastructure associated with food and drink manufacture industry. Various food processing procedures will be investigated as well as follow a specified product from raw materials through to consumer purchase.

Candidates will:

- ◆ identify the various departments within a food manufacturing business
- ◆ describe and outline the processes used in the manufacture of food and drink
- ◆ carry out research investigations
- ◆ present findings
- ◆ identify workplace practices relating to the food and drink industry
- ◆ research specific food or drink from raw materials through to consumer purchase

This means that as candidates are doing this Unit they will be developing aspects of the Core Skills of *Communication, Numeracy, Problem Solving, Information Communication Technology (ICT)* and *Working with Others*.

This Unit has the Critical Thinking component of Problem Solving embedded in it. This means that when candidates achieve the Unit, their Core Skills profile will also be updated to show they have achieved Critical Thinking at SCQF level 5.

### Disabled candidates and/or those with additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website [www.sqa.org.uk/assessmentarrangements](http://www.sqa.org.uk/assessmentarrangements)



## History of changes to Unit

Version	Description of change	Date
02	'Field to Farm' throughout the document has been changed to 'Field to Table'. 'Processing and Production' throughout the document has been changed to 'Processing and Manufacturing'.	05/11/2014

© Scottish Qualifications Authority 2012

This publication may be reproduced in whole or in part for educational purposes provided that no profit is derived from reproduction and that, if reproduced in part, the source is acknowledged.

Additional copies of this Unit specification can be purchased from the Scottish Qualifications Authority. Please contact the Customer Contact Centre, telephone 0845 279 1000.