

Higher National Unit Specification

General information

Unit title: Food Industry Practices: An Introduction (SCQF level 7)

Unit code: F6VE 34

Superclass:WMPublication date:June 2019Source:Scottish Qualifications AuthorityVersion:02

Unit purpose

This unit is designed to introduce learners to the main processing methods used in the food industry. It will enable learners to become familiar with the key practices used in the food industry, and provide them with the background context for further study of food manufacturing.

Outcomes

On completion of the unit, the learner should be able to:

- 1 Identify food processing operations used in the food industry.
- 2 Explain factors which affect the choice of food processing methods.

Credit points and level

1 Higher National Unit credit at SCQF level 7: (8 SCQF credit points at SCQF level 7)

Recommended entry to the unit

Access to this unit will be at the discretion of the centre.

Core Skills

There are opportunities to develop the Core Skills component of *Communication*: Written Communication (Writing) at SCQF level 5 and *Working with Others* (Working Co-operatively with Others) at SCQF level 5 in this unit, although there is no automatic certification of Core Skills or Core Skills components.

Higher National Unit Specification: General information (cont)

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Context for delivery

If this unit is delivered as part of a group award, it is recommended that it should be taught and assessed within the subject area of the group award to which it contributes.

This is a mandatory unit within the HNC in Food Science and Technology and the PDA in Food Technology. It can also be taken as a free-standing unit.

It is complementary to the unit F6VF 34 *Food Industry Principles: An Introduction* and if possible, it is recommended that both units are taught during the early stages of the group award.

The Assessment Support Pack (ASP) for this unit provides assessment and marking guidelines that exemplify the national standard for achievement. It is a valid, reliable and practicable assessment. Centres wishing to develop their own assessments should refer to the ASP to ensure a comparable standard. A list of existing ASPs is available to download from SQA's website (http://www.sqa.org.uk/sqa/46233.2769.html

Equality and inclusion

This unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

Higher National Unit Specification: Statement of standards

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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.

Where evidence for outcomes is assessed on a sample basis, the whole of the content listed in the knowledge and/or skills section must be taught and available for assessment. Learners should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Identify food processing operations used in the food industry.

Knowledge and/or skills

- Thermal techniques
- Fermentation, drying and curing
- Concentration, extraction and milling
- Advantages and disadvantages of different methods

Outcome 2

Explain factors which affect the choice of food processing methods.

Knowledge and/or skills

- Consumer preferences
- Costs
- Shelf life
- Safety
- Quality
- Nutrition

Higher National Unit Specification: Statement of standards (cont)

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Evidence requirements for this unit

Learners will need to provide evidence to demonstrate their knowledge and/or skills across all outcomes by showing that they can:

- explain the choice of processing method used in a particular context.
- describe the method of processing used in a particular context, including relevant examples of techniques and equipment used.
- appraise the advantages and disadvantages of the method of food processing used in a particular context.

The evidence should cover three different food processing contexts, each of which makes use of a different method.

Learners must demonstrate that they can carry out three food processing operations in accordance with safety and hygiene requirements. To ensure that learners meet these requirements, they should be observed on all three occasions and a record should be kept of the observation.

This unit could be assessed in a variety of ways. For example, learners could be asked to provide a report on processing methods used in different contexts. The evidence would explain the reasons for the choice of processing method, an explanation of what the processing method involves, and a discussion of the advantages and disadvantages of the method in the particular case.

The evidence would be accompanied by observation checklists for the practical work. Learners could refer to lessons from the practical work in their evidence.



Higher National Unit Support Notes

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Unit support notes are offered as guidance and 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 unit is intended to introduce learners to the main methods of food processing. It is designed to prepare learners for more detailed study of each of the three main methods of food processing.

Learners are not expected to cover all aspects of the main methods of food processing. The aim is to ensure that they are fully aware of these processing methods, what they consist of and how and why they are used in industry. They should also understand the ethical, cultural, dietary and food safety factors, which may have an impact on food processing methods.

Particular processing techniques can be used to exemplify each of the three main methods. Suitable examples could be:

- thermal and non-thermal treatments of foods, from sterilising and pasteurisation, to ensuring the cold chain and freezing.
- water activity and fermentation, by reducing moisture (air, sun, spray and freeze-drying), curing (nitrates, salts and sugars), and fermentation (sauerkraut).
- concentration (juices and purees), extraction (liquid fats through crushing, solvent extraction, degumming and bleaching) and milling (wet and dry milling) of foods.

Guidance on approaches to delivery of this unit

The unit should be delivered in a practical context. Learners will be expected to develop knowledge and understanding of the different methods of food processing and relate this to the day-to-day activities of the food industry.

Learners should be encouraged to consider the practical implications of the unit content, such as the different methods of food processing that are used, and the reasons why a method may be used in a particular situation. They should also consider the advantages and disadvantages of the different methods.

Higher National Unit Support Notes (cont)

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Learners should get the opportunity to undertake practical work experience, eg in pilot scale operations. They may be able to work together to undertake the practical work. They can also visit food manufacturing organisations to see for themselves the methods of food processing and equipment used in them.

Formative and summative assessment should enable learners to analyse food processing operations, and to assess the circumstances in which particular methods of processing are used.

Guidance on approaches to assessment of this unit

Evidence can be generated using different types of assessment. The following are suggestions only, there may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to working in industry or further/higher education.

This unit could be assessed in a variety of ways. For example, learners could be asked to provide a report on processing methods used in different industries. The evidence would explain the reasons for the choice of processing method, an explanation of what the processing method involves, and a discussion of the advantages and disadvantages of the method in the particular case.

Observation checklists for the practical work would accompany the evidence. Learners could refer to lessons from the practical work in their evidence, but material should be sought outside of lecture material.

Opportunities for 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 social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the evidence requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at **www.sqa.org.uk/e-assessment**.

Opportunities for developing Core and other essential skills

Some straightforward practical's which may be adopted are; using pressure cookers for sterilisation of foods, or simple heat treatments followed by blast chilling or freezing to achieve some differences in tastes and quality. Dehydration can be achieved with cookers, and fermentation of cabbage to make sauerkraut. Alternatively, working with universities to share knowledge and experience could be helpful as well as contacting Food and Drink Federation Scotland or the Institute of Food Science and Technology.

History of changes to unit

Version	Description of change	Date
02	Unit content has been transferred to a new shell and typographical amendments made to wording throughout.	03/06/19

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General information for learners

Unit title: Food Industry Practices: An Introduction (SCQF level 7)

This section will help you decide whether this is the unit for you by explaining what the unit is about, what you should know or be able to do before you start, what you will need to do during the unit and opportunities for further learning and employment.

This is a mandatory unit within the Higher National Certificate in Food Science and Technology and the Professional Development Award in Food Technology. It can also be taken as a free-standing unit.

It is designed to introduce you to food processing operations and help you to understand the basic principles, which apply to all aspects of food manufacturing.

This is a practical unit and you will be involved in practical work using pilot/lab scale equipment. This will give you an understanding of the main methods of food processing as well as hands-on experience of the kind you will need when you take up employment in the food industry. You will find out about the techniques and equipment that are used in the different methods of food processing. This unit will also enable you to consider factors that influence which method of food processing is used in a particular situation. These include things such as the preferences of the consumer and the cost of the processing method.

It is extremely important in the food industry that food processing be carried out in hygienic conditions. Health and safety procedures are also very important. The practical work will emphasise how vital these factors are, and you will be expected to conduct your work in a manner that meets all health, safety and hygiene requirements. You will be observed while you are doing this in order to ensure that you work in accordance with them.

This unit is closely associated with the *Food Industry Principles: An Introduction* unit and together, they will introduce you to the food industry.

The assessment for this unit will require you to carry out different food processing operations, and you will be observed while you are doing this. You will also be required to explain a method of food processing used in a particular context, including the equipment used and the advantages and disadvantages of the method in relation to work you carried out.