

SQA Advanced Unit Specification

General information for centres

Unit title: Sous Vide Cooking (SCQF level 7)

Unit code: HV7T 47

Superclass: NF

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Unit purpose

This unit is designed to enable learners to understand and demonstrate how to prepare, cook and present products using the low-temperature cooking method of sous vide. In addition to the application of sous vide cooking skills, the unit focuses on developing knowledge and understanding of the health and safety considerations of low temperature cooking.

Learners will prepare and present a three course menu incorporating dishes that have been produced using sous vide cooking methods. Learners will also have the opportunity to explore the business benefits of using sous vide cooking techniques, such as waste reductions, product consistency, etc.

This unit would be particularly suitable for:

- ◆ industry chefs who want a qualification in sous vide cooking for CPD purposes
- ◆ learners undertaking an SQA Advanced Certificate/Diploma in Professional Cookery
- ◆ enforcement officers

Outcomes

On successful completion of the unit the learner will be able to:

- 1 Describe the science behind sous vide cooking.
- 2 Explain the main health and food safety considerations related to low temperature cooking.
- 3 Describe the equipment and processes used in sous vide cooking.
- 4 Prepare and present a three course menu incorporating items that have been produced using sous vide cooking techniques.

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Credit points and level

1 SQA credit at SCQF level 7: (8 SCQF credit points at SCQF level 7)

Recommended entry to the unit

Entry to this unit is at the discretion of the centre, however, it is recommended that learners have a food hygiene qualification, such as:

- ◆ SQA unit Food Hygiene for the Hospitality Industry at SCQF level 5 or above
- ◆ REHIS hygiene qualifications at elementary or ideally intermediate level

In addition learners would benefit from having one or more of the following:

- ◆ National Certificate in Professional Cookery at SCQF level 5 or 6
- ◆ SVQ in Professional Cookery at SCQF level 5
- ◆ Relevant industry experience
- ◆ HACCP awareness

Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the support notes for this unit specification.

There is no automatic certification of Core Skills or Core Skill components in this unit.

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.

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.

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.

Outcome 1

Describe the science behind sous vide cooking.

Knowledge and/or skills

- ◆ Principles of low temperature cooking
- ◆ Transformation of proteins in food
- ◆ Sterilisation and pasteurisation of foods in sous vide cooking

Outcome 2

Explain the main health and food safety considerations related to low temperature cooking.

Knowledge and/or skills

- ◆ Current food safety regulations
- ◆ Key food borne pathogens associated with sous vide products
- ◆ Control of food borne pathogens
- ◆ HACCP¹ based food safety management systems
- ◆ Record keeping
- ◆ Role of food law inspectors

Outcome 3

Describe the equipment and processes used in sous vide cooking.

Knowledge and/or skills

- ◆ Equipment used in sous vide cooking
- ◆ Processes for preparation, cooking, storage and service of sous vide products

¹ Hazard Analysis Critical Control Point

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Outcome 4

Prepare and present a three course menu incorporating items that have been produced using sous vide cooking techniques.

Knowledge and/or skills

- ◆ Appropriate selection of equipment
- ◆ Food preparation techniques
- ◆ Cooking techniques
- ◆ Appropriate labelling and storage
- ◆ Finishing and presentation skills
- ◆ Compliance with food safety regulations
- ◆ Following HACCP principles

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:

For Outcome 1:

Describe the science behind sous vide cooking, evidence must include:

- ◆ the main differences between conventional cooking and sous vide cooking
- ◆ how low temperature cooking effects various food types (ie meat, poultry, fish and shellfish, fruit and vegetables, eggs)
- ◆ the importance of time and temperature controls in sous vide cooking and how this affects the safety and quality of the product
- ◆ sterilisation and pasteurisation of foods in sous vide cooking
- ◆ the transformation that occurs in myofibrillar proteins (ie myosin and actin), sarcoplasmic proteins and connective tissue (ie collagen) of meat products during sous vide cooking

For Outcome 2:

- ◆ Describe the main requirements of current food safety regulations.
- ◆ Identify the key food borne pathogens associated with sous vide products and explain how these can be controlled.
- ◆ Explain what a HACCP based food safety management system is: should include a definition of the terms hazards, control methods, critical control points, monitoring, corrective action, verification and documentation.
- ◆ Explain the importance of accurate record keeping in sous vide cooking and identify the documentation that must be completed.
- ◆ Describe the role of a food law inspector and provide two examples of enforcement actions that inspectors can take.

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For Outcome 3:

- ◆ Identify the different types of containers used in sous vide cooking and storage and state when each would be used.
- ◆ Identify the different types of vacuum pressure chambers.
- ◆ Identify the different types of gases and state when each would be used.
- ◆ Identify the different types of sous vide machines and state when each would be used.
- ◆ Describe the processes involved in cook-hold or cook-serve sous vide cooking, including the factors that should be taken into consideration when using each of the following food items: fresh meat and poultry, fruit and vegetables, fish and seafood, prepared foods, dairy products and baked goods.
- ◆ Describe the processes involved in cook-chill or cook freeze in sous vide cooking, including the factors that should be taken into consideration when using each of the following food items: fresh meat and poultry, fruit and vegetables, fish and seafood, prepared foods, dairy products and baked goods.
- ◆ Explain what the Maillard reaction is.
- ◆ Describe how to finish sous vide products for service.

For Outcome 4:

- ◆ Produce a three course menu, a minimum of one item in each dish must be produced using sous vide cooking methods.
- ◆ Learners should demonstrate a high level of competence in applying their practical skills to prepare, cook, store, present and finish sous vide products.
- ◆ The sous vide items must be finished and presented to a professional standard.
- ◆ Learners must also demonstrate good organisational skills and a high level of safe and hygienic working practices throughout.

Tutors/lecturers should use observational checklists covering the knowledge and skills and evidence requirements to record learners' performance.

Unit Support Notes

Unit title: Sous Vide Cooking (SCQF level 7)

Unit support notes are provided 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 develop the knowledge and technical skills required to prepare, cook, store and serve a wide range of products using sous vide cookery methods.

This unit could be delivered as a stand-alone unit or as part of the SQA Advanced Certificate/Diploma in Professional Cookery.

Guidance on approaches to delivery of this unit

Outcomes 1, 2 and 3 could be delivered in a classroom environment or lecture theatre. When introducing the unit, lecturers should explain the history and development of sous vide cooking; making references to chefs such as Georges Pralus and Bruno Goussault who developed and expanded the technique up to its use in professional kitchens today.

The advantages and disadvantages of this method of cooking should also be highlighted.

Advantages could include:

- ◆ Reduction in waste
- ◆ Effective portion controlling
- ◆ Optimise and enhance the flavour and texture of food products

Disadvantages could include:

- ◆ Longer cooking times
- ◆ No fat loss
- ◆ Expensive equipment required

When covering the monitoring and control of food safety risks, lecturers should discuss the differences between food poisoning and food borne illness, etc. Learners should be encouraged to research food safety regulations — the Food Standards Scotland website is a good source of information (<http://www.foodstandards.gov.scot/food-safety-standards>).

It is anticipated that Outcome 4 will be delivered in a training kitchen or in a professional kitchen. Learners' are expected to demonstrate the understanding, skills and techniques needed to produce commercially acceptable products using sous vide methods. Learners must have opportunities to practise and develop their skills prior to the practical assessment.

Throughout delivery of this unit, emphasis should be on monitoring and control of food safety risks.

Delivery of this unit in conjunction with the SQA Unit *Food Hygiene* Intermediate would give the learner fuller understanding of the requirements of food safety regulations.

The delivery of the unit would be greatly enhanced by the use of guest speakers and/or an industry visit to a professional kitchen that uses sous vide cookery methods.

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 work or further and higher education.

Learners could create a portfolio of evidence to demonstrate their knowledge and understanding for Outcomes 1, 2 and 3. Worksheets/log books/portfolios could be completed by learners to record their knowledge and understanding of the science of sous vide cooking; the monitoring and control of food safety risks; completed documentation, recipes and menus, etc.

Alternatively Outcomes 1, 2 and 3 could be assessed by written or oral questioning to test learners' knowledge of the science of sous vide cooking, the principles of food safety in low temperature cooking and the equipment and techniques used in sous vide cooking.

Outcome 4 should be assessed using performance evidence where learners will produce a three course menu, where a minimum of one item in each dish will be produced using sous vide methods. Assessment should focus on the sous vide items produced rather than the whole dish. Each practical assessment should have a suitable brief that gives learners guidance on the requirements of the assessment and the time allocated for completion. Evaluations/descriptions of the finished sous vide products, photographs and a recipe reference list could also be included in learner portfolios.

Lecturers should use observational checklists covering the knowledge and skills to record learners' performance.

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

The delivery of this unit and subsequent assessment will provide learners with the opportunity to develop aspects of the Core Skills in *Numeracy and Problem Solving*.

Numeracy: Using Number at SCQF level 5

This Core Skills component could be developed in the work for all outcomes. Using Number at SCQF level 5 involves applying a range of numerical skills in various everyday situations. This would fit with the requirements for all outcomes as learners will carry out a variety of calculations when weighting and measuring ingredients, estimating timings, measuring and recording temperatures, etc.

Problem Solving: Critical Thinking at SCQF level 5

This Core Skills component will be developed in the work for all outcomes. Critical Thinking at SCQF level 5 involves analysing a situation or issue, identifying the factors involved in the situation or issue, assessing the relevance of these factors to the situation or issue and developing an approach to deal with the situations or issues. This would fit with the requirements for all outcomes where learners will have to demonstrate their understanding of the science behind sous vide cooking including the transformation of proteins in food, the effect of time and temperature on a range of food types, etc. In addition learners are required to understand the how to monitor and control food safety risks.

Problem Solving: Planning and Organising at SCQF level 5

This Core Skills component will be developed in the work for Outcome 4. Planning and Organising at SCQF level 5 involves planning, organising and completing a task. This would fit with the requirements for Outcome 4 where learners will plan and produce a three course menu where at least one item in each dish will be produced using sous vide techniques. This will involve identifying items that are suitable for sous vide cooking, calculating cooking times to ensure that their menu is available at the correct time. Selecting and using the appropriate tools and equipment. Learners are also required to demonstrate good organisational skills and ensure that hygiene, health and safety requirements are adhered to.

History of changes to unit

Version	Description of change	Date

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SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of SQA Advanced Qualifications.

FURTHER INFORMATION: Call SQA's Customer Contact Centre on 44 (0) 141 500 5030 or 0345 279 1000. Alternatively, complete our [Centre Feedback Form](#).

General information for learners

Unit title: Sous Vide Cooking (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 unit is designed to enable you to demonstrate the knowledge, skills and techniques required to prepare and cook products using sous vide cooking methods. In addition to the application of sous vide cooking skills, the unit focuses on developing knowledge and understanding of the health and safety considerations of low temperature cooking, including the importance of record keeping.

This unit would be particularly suitable for:

- ◆ industry chefs who want a qualification in sous vide cooking for CPD purposes
- ◆ learners undertaking an SQA Advanced Certificate/Diploma in Professional Cookery
- ◆ enforcement officers

This unit is likely to be taught in both the classroom and a training or professional kitchen. You will be expected to display a high level of safe and hygienic working practices along with good organisational skills.

You will apply your practical skills by creating and producing a three course menu where you will use sous vide methods for at least one item in each dish. You will be expected to finish and present your menu items to a professional standard. In addition you will be required to produce well documented information to show your understanding of the science of sous vide cooking, your knowledge of the requirements of food safety regulations as well as the equipment and techniques used in sous vide cooking.

On completion of this unit you should be able to:

- 1 Describe the science behind sous vide cooking.
- 2 Explain the main health and food safety considerations related to low temperature cooking.
- 3 Describe the equipment and processes used in sous vide cooking.
- 4 Prepare and present a three course menu incorporating items that have been produced using sous vide cooking techniques.

In addition, completion of this unit will enable you to develop aspects of the Core Skills in *Numeracy* and *Problem Solving*.