

National Unit Specification: general information

UNIT	Health and Food Technology: Resource Management (Higher)
NUMBER	D271 12
COURSE	Home Economics: Health and Food Technology (Higher)

SUMMARY

At the end of this Unit, candidates will be able to use management skills necessary for the effective use of materials and resources. Candidates will demonstrate technological capability to solve problems and apply knowledge and understanding of Health and Food Technology to a range of situations.

OUTCOMES

- 1 Plan, organise and complete a practical activity to meet given needs.
- 2 Develop ideas for solutions to a given brief.
- 3 Review and evaluate a problem solving activity.
- 4 Apply specialist knowledge and understanding to address a problem or situation.

RECOMMENDED ENTRY

While entry is at the discretion of the centre, candidates would normally be expected to have attained one of the following:

- Standard Grade Home Economics at Credit level
- Intermediate 2 Home Economics or its component Units
- Intermediate 2 or Credit level in a related subject.

This unit is also suitable for 'new starts' and adult returners.

CREDIT VALUE

2 credits at Higher.

Administrative Information

Superclass:	NH
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National Unit Specification: general information (cont)

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CORE SKILLS

Achievement of this Unit gives automatic certification of the following:

Complete Core Skill Problem Solving at SCQF Level6

Core Skill component(s) None

National Unit Specification: statement of standards

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OUTCOME 1

Plan, organise and complete a practical activity to meet given needs.

Performance criteria

- a) The needs to be addressed are identified from the task and explained.
- b) A logical sequence of work is planned, which takes account of time constraints and shows informed choice of resources.
- c) The practical activity is carried out efficiently.
- d) A conclusion is drawn which relates to the original needs of the task.

Evidence requirements

Recorded evidence must be provided to show that each of the performance criteria has been met on one occasion. The proposed instrument of assessment is a practical exercise, which may be part of a design activity. Attainment should be recorded by the use of an observational checklist.

Specific advice:

- a) The needs of the task must be considered, and brief reasoned comment given, to show that the candidate has understood the task.
- b) The sequence of work shows clear evidence of: time management, requisitioning of resources and equipment; sensible sequencing of the stages taking account of preparation, manufacture time and skill level; use of labour saving equipment, where appropriate, to make the best use of time.
- c) Product(s) are prepared with accuracy according to instructions, taking account of the correct techniques and procedures for preparation, efficient use of resources and time, and safe, hygienic practices. Equipment should be used to save time and give consistent results.
- d) The conclusion includes comment on how well the products chosen and produced meet the needs of the task.

OUTCOME 2

Develop ideas for solutions to a given brief.

Performance criteria

- a) Analysis of the brief identifies the key points and explains the needs arising.
- b) Criteria for a specification are identified and are valid.
- c) Investigations are clear in purpose, appropriate for the criteria identified in the specification, and justified.
- d) Results recorded are concise, easy to interpret and reach conclusions.
- e) One idea for a solution is proposed, generated from the results and conclusions of investigation.

National Unit Specification: statement of standards (cont)

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Evidence requirements

Recorded evidence must be provided to show that each of the performance criteria has been met on one occasion. The proposed instrument of assessment is a design activity. The conditions which apply to the activity are: teacher/lecturer support should there be malfunction of equipment; negotiation of a time limit for the design activity. The recorded evidence should be produced as defined in performance criteria (a) — (e) using pro-forma. Attainment could be assessed by the use of a marking scheme and recorded by observational checklist.

Specific advice:

- a) The key points can be defined by breaking down the brief into the main parts. Explanation of the needs arising from these key points will relate to the brief and include comment on appropriate principles of design, eg function, safety, value for money/cost, aesthetics, durability.
- b) The solution should be able to be measured against the specification: that is, it should be possible to test and evaluate the solution against the specification. It should allow for a range of solutions, contain more detail than the brief and be able to be tested.
- c) Evidence of search and investigation techniques could include: investigation to gain background information, eg a list of questions to be addressed; technical information, eg looking at existing products that meet the needs of the brief and identifying their characteristics; investigation into availability of resources; time.
- d) The recording of results should be concise. A list of bullet points with brief conclusions would be suitable. The procedures used for research are not required for the purpose of assessment.
- e) Presentation of an idea for a solution may include one or more of the following: design sketches; brief notes; diagrams; and story boards.

OUTCOME 3

Review and evaluate a problem solving activity.

Performance criteria

- a) Appropriate, measurable criteria for reviewing and evaluating are identified.
- b) The effectiveness of the overall plan is explained accurately taking account of the criteria.
- c) A conclusion is drawn which is justified, suggesting relevant recommendations.

Evidence requirements

Recorded evidence must be provided to show that each of the performance criteria has been met on one occasion. Candidates could achieve this outcome as part of a design activity. Attainment should be assessed by using a marking scheme which takes account of the criteria.

Specific advice:

- a) The criteria are devised by the candidate or adopted/adapted from a set of criteria used by another organisation. Criteria may include time, resources, skills, abilities, results of investigation, appropriateness in meeting specified needs/purpose
- b) The evaluation will be based on evidence gathered during the problem solving activity. All evidence which relates to the effectiveness of the overall plan should be considered and based on work carried out including amendments/modifications made to the overall plan during implementation
- c) A full conclusion should be drawn to make recommendations. The recommendations can include: suggestions for improvements to a product/process/system or event; further work required; more investigations; additional evidence gathering; an alternative strategy required.

National Unit Specification: statement of standards (cont)

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OUTCOME 4

Apply specialist knowledge and understanding to address a problem or situation.

Performance criteria

- a) Knowledge is applied in order to give accurate explanation and reasoned argument to address a problem or situation.

Evidence requirements

Recorded evidence must be provided to show that the performance criterion has been met on one occasion. The proposed instrument is a question paper which requires a range of short and restricted responses. The questions will sample the content. Attainment could be assessed by the use of a marking schedule.

National Unit Specification: support notes

UNIT Health and Food Technology: Resource Management (Higher)

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 80 hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

The content on which this Unit is based is listed in the Course details for Home Economics: Health and Food Technology (H).

The Unit is set in the context of Health and Food Technology. Candidates will be required to demonstrate knowledge and understanding of the content, by using it as a focus for related practical application. Knowledge and understanding of the content can be acquired or consolidated through practical application.

The context for the Unit requires candidates to understand the importance of combining several activities in a systematic way, to make effective use of time and resources for both commercial and domestic purposes/situations.

Development of planning and organisational skills, and the completion of practical activities can be integrated with the delivery of the other component Units, when they are part of the Course in Health and Food Technology.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

Learning and teaching approaches for this should match the Unit outcomes.

Outcome 1

A group or candidate-centred approach to learning is recommended in the initial stages. Individuals should be encouraged to make contributions to ideas for planning, carrying out and drawing conclusions about practical activities as part of a group experience. It is important that candidates understand:

- why the planning stages are important to the activity
- how the end results can be affected by inefficient use of time and resources
- how the activity will be reviewed
- why it should be evaluated.

A workshop arrangement will promote candidate motivation and allow for opportunities to exchange ideas and views. Review and evaluation should be ongoing throughout the Unit as well as teacher/lecturer intervention to support candidates when required.

National Unit Specification: support notes (cont)

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Outcomes 2 and 3

A group or candidate-centred approach to learning is recommended in the initial stages of Unit delivery. Individuals should be encouraged to make contributions to ideas for product development as part of a group experience. This approach will help to develop candidates' confidence for working independently. Communication skills will be developed through shared ideas and experiences, and through the opportunity to offer opinions, comment and constructive criticism on the ideas of others. To encourage candidate participation and motivation, the pace of work, level of challenge and prior knowledge and experiences of candidates should be considered.

Candidates' skills of evaluation can be developed by encouraging them to look at commercial products. Open discussion and brainstorming can stimulate ideas which may lead to the group formulating opinions about: the product specification; the target group; the raw materials used; how successful the product has been. Food sensory evaluation of existing products is another way of developing evaluation skills. By looking at the designs of others, candidates will develop aspects of technological capability. Candidates will be given design activities which will encourage analysis, investigation and evaluation.

Candidates should be shown how to devise criteria for reviewing and evaluating a design activity. Proposals for improving or modifying future activities should be negotiated and agreed by the group.

Sources of information, such as video material on commercial food preparation, publications on product development, outside speakers and visits to manufacturing plants, will act as a motivating influence. A selection of commercially manufactured food products and their packaging should be available for candidates to analyse, make use of and evaluate.

It is important that candidates are aware of food safety and hygienic practices in food production. The microbiological safety and risk assessment procedure used in industry should be explained and the benefits to the end user highlighted. Visits by Environmental Health Officers will provide an added stimulus to learning experiences, as will participation in setting their own HACCP system.

An integrated approach to delivery of the content is recommended, whereby several aspects may be covered during practical application.

Outcome 4

Candidates should be able to access a range of source information which relates to the content, eg video, text, food commodities, commercial packages. A stations approach could be used as a method for acquiring reinforcing knowledge and understanding, by using different approaches to learning at each station. Outside speakers such as dieticians, EHOs, Home Economists, Food Technologist and Trading Standards Officers could contribute to candidate learning.

National Unit Specification: support notes (cont)

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The teacher/lecturer can pre-test knowledge and understanding of the content by using oral questioning techniques during practical activities. When using a group approach, candidates may demonstrate knowledge and understanding by presenting a short talk after a practical activity. It is necessary to cover the entire content of the Unit for the benefit of the overall candidate experience.

It is recommended that candidates are given opportunities to demonstrate knowledge and understanding through more formal methods, as well as through practical application. The teacher/lecturer will want to monitor progress throughout the delivery of the Unit by using a variety of techniques, for example, direct questioning, short and structured response.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Whilst it is possible to devise test instruments for each of the Unit outcomes, it is preferable to use ones which encompass more than one outcome. This approach will reduce the demands of assessment on candidates and leave more time for learning and teaching. The evidence requirements fall into two categories:

- practical activity
- demonstration of knowledge and understanding which underpins the practical activity.

While attainment of outcomes 1- 4 need only be demonstrated on one occasion, it is unlikely that candidates would be ready for assessment until the later stages of delivery. Assessment could take place as an end-of-unit test. However, it is possible for evidence to be gathered when candidates are carrying out practical exercises throughout the Unit.

In the interests of confidentiality and national standards, it would be more appropriate for all candidates to carry out this assessment at the same time within any one class.

Further guidance and exemplification on appropriate evidence will be provided in the Subject Guide.

The delivery and assessment of this Unit is open to alternative methods to support the inclusion of all candidates. Examples include:

- extension to the notional design length
- use of technology to record information/instruction and to support assessment situations
- appropriate level of teacher/lecturer or auxiliary support in practical activities
- use of specialist equipment.

SPECIAL NEEDS

This unit specification is intended to ensure that there are no artificial barriers to learning or assessment. Special needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering alternative outcomes for units. For information on these, please refer to the SQA document *Guidance on Special Assessment Arrangements* (SQA, 2001).