Module Descriptor

Food Preservation and Processing

Level 2    D20127

September 2001
# Level 2 Module Descriptor

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<td>Indicates the module content. This title appears on the learner’s certificate. It can be used to download the module from the website <a href="http://www.ncva.ie">www.ncva.ie</a>.</td>
</tr>
<tr>
<td>Module Code</td>
<td>An individual code is assigned to each module; a letter at the beginning denotes a vocational or general studies area under which the module is grouped and the first digit denotes its level within the national vocational certificate framework.</td>
</tr>
<tr>
<td>Level</td>
<td>Indicates where the module is placed in the national vocational certificate framework, from Foundation to Level 3.</td>
</tr>
<tr>
<td>Credit Value</td>
<td>Denotes the amount of credit that a learner accumulates on achievement of the module.</td>
</tr>
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<td>Describes in summary what the learner will achieve on successfully completing the module and in what learning and vocational contexts the module has been developed. Where relevant, it lists what certification will be awarded by other certification agencies.</td>
</tr>
<tr>
<td>Preferred Entry Level</td>
<td>Recommends the level of previous achievement or experience of the learner.</td>
</tr>
<tr>
<td>Special Requirements</td>
<td>Usually ‘none’ but in some cases detail is provided here of specific learner or course provider requirements. There may also be reference to the minimum safety or skill requirements that learners must achieve prior to assessment.</td>
</tr>
<tr>
<td>General Aims</td>
<td>Describe in 3-5 statements the broad skills and knowledge learners will have achieved on successful completion of the module.</td>
</tr>
<tr>
<td>Units</td>
<td>Structure the learning outcomes; there may be no units.</td>
</tr>
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<td>Specific Learning Outcomes</td>
<td>Describe in specific terms the knowledge and skills that learners will have achieved on successful completion of the module.</td>
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<td>Provides details on how the learning outcomes are to be assessed.</td>
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<td>Individual Candidate Marking Sheets</td>
<td>List the assessment criteria for each assessment technique and the marking system.</td>
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<tr>
<td>Module Results Summary Sheet</td>
<td>Records the marks for each candidate in each assessment technique and in total. It is an important record for centres of their candidate’s achievements.</td>
</tr>
<tr>
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<td>Explains the types of assessment techniques used to assess standards.</td>
</tr>
<tr>
<td>Assessment Principles</td>
<td>Describes the assessment principles that underpin the NCVA approach to assessment.</td>
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</table>
**Introduction**

A module is a statement of the standards to be achieved to gain an NCVA award. Candidates are assessed to establish whether they have achieved the required standards. Credit is awarded for each module successfully completed.

The standards in a module are expressed principally in terms of specific learning outcomes, i.e. what the learner will be able to do on successful completion of the module. The other elements of the module - the purpose, general aims, assessment details and assessment criteria - combine with the learning outcomes to state the standards in a holistic way.

While the NCVA is responsible for setting the standards for certification in partnership with course providers and industry, it is the course providers who are responsible for the design of the learning programmes. The duration, content and delivery of learning programmes should be appropriate to the learners’ needs and interests, and should enable the learners to reach the standard as described in the modules. Modules may be delivered alone or integrated with other modules.

The development of learners’ **core skills** is a key objective of vocational education and training. The opportunity to develop these skills may arise through a single module or a range of modules. The core skills include:

- taking initiative
- taking responsibility for one’s own learning and progress
- problem solving
- applying theoretical knowledge in practical contexts
- being numerate and literate
- having information and communication technology skills
- sourcing and organising information effectively
- listening effectively
- communicating orally and in writing
- working effectively in group situations
- understanding health and safety issues
- reflecting on and evaluating quality of own learning and achievement.

Course providers are encouraged to design programmes which enable learners to develop core skills.
<table>
<thead>
<tr>
<th></th>
<th>Module Title</th>
<th>Food Preservation and Processing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Module Code</td>
<td>D20127</td>
</tr>
<tr>
<td></td>
<td>Level</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Credit Value</td>
<td>1 credit</td>
</tr>
</tbody>
</table>

**Purpose**

This module is a statement of the standards to be achieved to gain an NCVA credit in Food Preservation and Processing at Level 2. It is an elective module for the National Vocational Certificates Level 2 in Hotel and Catering, and Tourism.

The module is designed to be taken across a wide range of NCVA certificates. It provides learners with an overview of the principles and practice of food preservation and processing, both in the home and commercially.

**Preferred Entry Level**

National Vocational Certificate Level 1, Leaving Certificate or equivalent qualifications and/or relevant life and work experiences.

**Special Requirements**

Providers:

- Providers must obtain approval from CERT to offer this module. The approval form is available at the back of this module descriptor.
- The content and delivery of this module must comply with the criteria specified by CERT and available from CERT.
- Minimum recommended resource requirements are available from CERT.

**General Aims**

*Learners who successfully complete this module will:*

- **8.1** understand the principles of microbiology in relation to food preservation and processing techniques
- **8.2** have developed hygienic and safe working practices
8.3 have acquired standard home-based food preservation and processing skills

8.4 understand the key features and requirements of commercial food preservation and processing.

9 Units The specific learning outcomes are grouped into 5 units.

Unit 1 Principles of Food Preservation and Processing
Unit 2 Hygiene and Safety
Unit 3 Food Preservation and Processing Techniques
Unit 4 The Food Preservation Industry
Unit 5 Food Additives, Wholesomeness and Consumer Protection

10 Specific Learning Outcomes

Unit 1 Principles of Food Preservation and Processing

Learners should be able to:

10.1.1 explain the purpose of food preservation
10.1.2 describe the conditions necessary for the growth of micro-organisms
10.1.3 describe the structure of the bacterial cell
10.1.4 explain the action of enzymes and micro-organisms in food spoilage
10.1.5 identify the causes of food poisoning
10.1.6 explain the role of micro-organisms in the production of
   • vinegar
   • yoghurt
   • alcohol
   • breadmaking.

Unit 2 Hygiene and Safety

Learners should be able to:

10.2.1 explain the standards of essential personal hygiene when working with food, to include clothing and equipment
10.2.2 explain the principles of kitchen hygiene and safety
10.2.3 demonstrate an appropriate standard of personal and environmental hygiene when working with food
10.2.4 define the term ‘hazard’ and identify specific areas of possible contamination when engaged in the preservation and processing of food
10.2.5 demonstrate good practice in food storage
10.2.6 interpret information listed on labels including recognition of main additives
10.2.7 demonstrate safe practice in home-based food preservation and processing.

Unit 3
Food Preservation and Processing Techniques

Learners should be able to:

10.3.1 use standard home food preservation and processing techniques to produce:
• jams, jellies and marmalade
• chutneys and mincemeat
• lemon curd
• yoghurt and cottage cheese
• dried herbs
• pickled vegetables

10.3.2 demonstrate skill in the flavouring of oil and vinegar
10.3.3 prepare raw and fresh cooked food for freezing to include fruit, vegetables, fish and meat
10.3.4 demonstrate good practice in hygiene and safety during the preservation, processing and storage of the food.

Unit 4
The Food Preservation Industry

Learners should be able to:

10.4.1 describe the main food preservation and processing technologies used in Ireland
10.4.2 list a range of nationally produced processed foods available in retail outlets
10.4.3 explain the main stages of commercial processing from the selection of raw materials through to packaged end product

10.4.4 evaluate a selected fresh food and a processed food in terms of flavour, quality, appearance, nutritional value and cost

10.4.5 explain the economic benefits of food preservation and processing in the context of the hotel, catering and tourism industry

10.4.6 identify appropriate packaging materials and wrappings for use in food processing

10.4.7 describe the statutory requirements for commercial food labelling.

Unit 5 Food Additives, Wholesomeness and Consumer Protection

Learners should be able to:

10.5.1 interpret information listed on a range of labels and explain the function and necessity of food additives

10.5.2 classify food additives in terms of:
   • colour
   • nutrients
   • flavours
   • emulsifiers
   • preservatives

10.5.3 explain the function of natural and synthetic colourings and flavourings

10.5.4 explain the action of emulsifiers and antioxidants

10.5.5 explain the terms ‘irradiation’ and ‘food allergy’

10.5.6 describe health-related concerns for the consumer of food additives

10.5.7 evaluate the use of genetically modified (GM) foods and organic foods.
11 Portfolio of Assessment

Please refer to the glossary of assessment techniques and the note on assessment principles at the end of this module descriptor.

All assessment is carried out in accordance with NCVA regulations.

Assessment is devised by the internal assessor, with external moderation by the NCVA.

<table>
<thead>
<tr>
<th>Summary</th>
<th>Project 60%</th>
<th>Examination (Theory-Based) 40%</th>
</tr>
</thead>
</table>

11.1 Project

The internal assessor will devise a project brief that requires candidates to produce three products using three different techniques of home-based food preservation/processing. Candidates are required to demonstrate good practice in health and safety.

Evidence presented will include the following:

- report of the project planning
- record of how each product was selected and preserved/processed
- description of the effect of the preservation/processing procedure
- comparison with an appropriate commercially-processed product.

The form in which the project is presented will allow for a number of media to be used: written, oral, graphic, visual or a combination of these.

11.2 Examination

The internal assessor will devise a theory-based examination that assesses candidates’ ability to recall and apply theory and understanding, requiring responses to a range of structured questions. These questions may be answered in different media such as in writing or orally.

The examination will be based on a range of specific learning outcomes and will be 2 hours in duration.

The format of the examination will be as follows:

- 5 structured questions
- Candidates are required to answer 4 (10 marks each).
12 Grading

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pass</td>
<td>50 - 64%</td>
</tr>
<tr>
<td>Merit</td>
<td>65 - 79%</td>
</tr>
<tr>
<td>Distinction</td>
<td>80 - 100%</td>
</tr>
</tbody>
</table>
Candidate Name: ______________________________  NCVA Candidate No.: __________
Centre: __________________________________________________  Roll No.: ___________

<table>
<thead>
<tr>
<th>Assessment Criteria</th>
<th>Maximum Mark</th>
<th>Candidate Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>• clear rationale for and planning of food preservation and processing project</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>• clear understanding and application of key principles of food preservation and</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>processing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• effective demonstration of food preservation and processing skills</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>• effective demonstration of good practice in health and safety</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>• comprehensive evaluation of the treated products and comparison with commercially-</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>produced products</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL MARKS**

*This mark should be transferred to the Module Results Summary Sheet*

60

**Internal Assessor’s Signature:** ______________________________  **Date:** __________

**External Examiner’s Signature:** ______________________________  **Date:** __________
## Food Preservation and Processing
### Examination (Theory-Based) 40%

**Candidate Name:** ______________________________  **NCVA Candidate No.:** __________

**Centre:** __________________________________________________  **Roll No.:** ___________

<table>
<thead>
<tr>
<th>Assessment Criteria</th>
<th>Maximum Mark</th>
<th>Candidate Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 structured questions, answer any 4 (10 marks each)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Indicate questions answered)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question No.:* _____</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>10</td>
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<td>10</td>
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<tr>
<td></td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

**TOTAL MARKS**

*This mark should be transferred to the Module Results Summary Sheet*

40

**Internal Assessor’s Signature:** ______________________________  **Date:** __________

**External Examiner’s Signature:** ______________________________  **Date:** __________

* The internal assessor is required to enter here the question numbers answered by the candidate.
NCVA Module Results Summary Sheet

Module Title: Food Preservation and Processing
Module Code: D20127

<table>
<thead>
<tr>
<th>Candidate Surname</th>
<th>Candidate Forename</th>
<th>Mark Sheet 1</th>
<th>Mark Sheet 2</th>
<th>Total 100%</th>
<th>Grade*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>60</td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Maximum Marks per Marking Sheet

Signed: _____________________________

Internal Assessor: _____________________________ Date: __________

This sheet is for internal assessors to record the overall marks of individual candidates. It should be retained in the centre. The marks awarded should be transferred to the official NCVA Module Results Sheet issued to centres before the visit of the external examiner.

Grade*
D: 80 - 100%
M: 65 - 79%
P: 50 - 64%
U: 0 - 49%
W: candidates entered who did not present for assessment
# Glossary of Assessment Techniques

## Assignment

*An exercise carried out in response to a brief with specific guidelines and usually of short duration.*

Each assignment is based on a brief provided by the internal assessor. The brief includes specific guidelines for candidates. The assignment is carried out over a period of time specified by the internal assessor.

Assignments may be specified as an oral presentation, case study, observations, or have a detailed title such as audition piece, health fitness plan or vocational area profile.

## Collection of Work

*A collection and/or selection of pieces of work produced by candidates over a period of time that demonstrates the mastery of skills.*

Using guidelines provided by the internal assessor, candidates compile a collection of their own work. The collection of work demonstrates evidence of a range of specific learning outcomes or skills. The evidence may be produced in a range of conditions, such as in the learning environment, in a role play exercise, or in real-life/work situations.

This body of work may be self-generated rather than carried out in response to a specific assignment eg art work, engineering work etc

## Examination

*A means of assessing a candidate’s ability to recall and apply skills, knowledge and understanding within a set period of time (time constrained) and under clearly specified conditions.*

Examinations may be:

- practical, assessing the mastery of specified practical skills demonstrated in a set period of time under restricted conditions
- oral, testing ability to speak effectively in the vernacular or other languages
- interview-style, assessing learning through verbal questioning, on one-to-one/group basis
- aural, testing listening and interpretation skills
- theory-based, assessing the candidate’s ability to recall and apply theory, requiring responses to a range of question types, such as objective, short answer, structured, essay. These questions may be answered in different media such as in writing, orally etc.

## Learner Record

*A self-reported record by an individual, in which he/she describes specific learning experiences, activities, responses, skills acquired.*

Candidates compile a personal logbook/journal/diary/daily diary/record/laboratory notebook/sketch book.

The logbook/journal/diary/daily diary/record/laboratory notebook/sketch book should cover specified aspects of the learner’s experience.
**Project**

*A substantial individual or group response to a brief with guidelines, usually carried out over a period of time.*

Projects may involve:

- research – requiring individual/group investigation of a topic
- process – eg design, performance, production of an artefact/event

Projects will be based on a brief provided by the internal assessor or negotiated by the candidate with the internal assessor. The brief will include broad guidelines for the candidate. The work will be carried out over a specified period of time.

Projects may be undertaken as a group or collaborative project, however the individual contribution of each candidate must be clearly identified.

The project will enable the candidate to demonstrate: *(some of these – about 2-4)*

- understanding and application of concepts in (specify area)
- use/selection of relevant research/survey techniques, sources of information, referencing, bibliography
- ability to analyse, evaluate, draw conclusions, make recommendations
- understanding of process/planning implementation and review skills/planning and time management skills
- ability to implement/produce/make/construct/perform
- mastery of tools and techniques
- design/creativity/problem-solving/evaluation skills
- presentation/display skills
- team working/co-operation/participation skills.

**Skills Demonstration**

*Assessment of mastery of specified practical, organisational and/or interpersonal skills.*

These skills are assessed at any time throughout the learning process by the internal assessor/another qualified person in the centre for whom the candidate undertakes relevant tasks.

The skills may be demonstrated in a range of conditions, such as in the learning environment, in a role-play exercise, or in a real-life/work situations.

The candidate may submit a written report/supporting documentation as part of the assessment.

Examples of skills: laboratory skills, computer skills, coaching skills, interpersonal skills.
Evidence of Approval

CERT

D20127 Food Preservation and Processing

A special requirement for this module is that the provider must secure the approval of CERT before entering candidates for assessment. To apply for approval complete the form below and send it to CERT. Once approved, CERT will return a signed copy to you. The signed copy must be held in the centre as evidence of approval and be available for the NCVA external examiner. This process must take place in conjunction with the normal NCVA application procedure.

This form is evidence that CERT has approved this centre to run the module D20127 Food Preservation and Processing.

To be completed by the Course Provider:

<table>
<thead>
<tr>
<th>Centre Name</th>
<th>_________________________________________________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>_________________________________________________________________</td>
</tr>
<tr>
<td></td>
<td>__________________________________________________________________</td>
</tr>
<tr>
<td>Centre Roll Number</td>
<td>___________________________ Tel. No _________ Fax No _________ E-mail __________</td>
</tr>
<tr>
<td>Name(s) of contact person</td>
<td>___________________________________________________________________</td>
</tr>
<tr>
<td>Name and qualifications of module tutor(s)</td>
<td>_________________________________________________________________</td>
</tr>
<tr>
<td>Name and qualification of person who will assess the module D20127 Food Preservation and Processing (this must be agreed with CERT)</td>
<td>___________________________________________________________________</td>
</tr>
<tr>
<td>Number of candidates</td>
<td>_______________________________ Approximate date of practical assessment</td>
</tr>
</tbody>
</table>

I confirm that this centre has the resources necessary to offer D20127 Food Preservation and Processing.

Signature of Centre Principal/Director ________________________________ Date __________

CERT Contact and Address

Training Adviser, Curriculum, Certification and Research Section
CERT
CERT House
Amiens Street
Dublin 1
Tel.: 01-8847700
Fax: 01 8556821

Signature
CERT ________________________________ Date ________________
NCVA Assessment Principles

1 Assessment is regarded as an integral part of the learning process.

2 All NCVA assessment is criterion referenced. Each assessment technique has **assessment criteria** which detail the range of marks to be awarded for specific standards of knowledge, skills and competence demonstrated by candidates.

3 The mode of assessment is generally local i.e. the assessment techniques are devised and implemented by internal assessors in centres.

4 Assessment techniques in NCVA modules are valid in that they test a range of appropriate learning outcomes.

5 The reliability of assessment techniques is facilitated by providing support for assessors.

6 Arising from an extensive consultation process, each NCVA module describes what is considered to be an optimum approach to assessment. When the necessary procedures are in place, it will be possible for assessors to use other forms of assessment, provided they are demonstrated to be valid and reliable.

7 To enable all learners to demonstrate that they have reached the required standard, candidate evidence may be submitted in written, oral, visual, multimedia or other format as appropriate to the learning outcomes.

8 Assessment of a number of modules may be integrated, provided the separate criteria for each module are met.

9 Group or team work may form part of the assessment of a module, provided each candidate’s achievement is separately assessed.