

## Modification history

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package Version 2.0.

FBPTEC4002	Apply principles of food packaging
<b>Application</b>	<p>This unit of competency describes the skills and knowledge required to oversee packaging operations in a food and beverage processing environment and to assess the nature, and likely causes, of packaging problems.</p> <p>The unit applies to senior operators and managers who are responsible for overseeing packaging processes and work within known parameters. They provide and communicate solutions to a range of predictable or unpredictable problems.</p> <p>All work must be carried out to comply with workplace procedures according to state/territory health and safety regulations, legislation and standards that apply to the workplace.</p> <p>No occupational licensing or certification requirements apply to this unit at the time of publication. However, legislative and regulatory requirements for food processing exist so local requirements must be checked.</p>
<b>Prerequisite Unit</b>	Nil
<b>Unit Sector</b>	Technical (TEC)

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Analyse characteristics of packaging suitable for use with food products	1.1 Identify and compare packaging materials suitable for a food or beverage product 1.2 Assess the interaction between the packaging and the food or beverage product 1.3 Determine environmental impact and handling features of packaging materials 1.4 Consider customer and legal requirements of packaging 1.5 Ensure packaging material characteristics meet the safety and quality needs of food or beverage being packaged
2. Evaluate packaging in a production environment and recommend improvements	2.1 Assess packaging material properties for quality and safety 2.2 Determine costs of packaging materials 2.3 Analyse non-conformances to identify probable causes 2.4 Identify and investigate opportunities for improvement to materials, processes or environmental impact 2.5 Establish or review procedures for safely operating a packaging process 2.6 Document evaluation and recommendations and seek approval for implementation

Foundation Skills	
<i>This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.</i>	
Skill	Description
Reading	<ul style="list-style-type: none"> <li>Critically analyse documentation from a variety of sources and consolidate information relating to packaging materials and production to assist with analysis</li> </ul>
Writing	<ul style="list-style-type: none"> <li>Prepare proposal expressing ideas and exploring issues using language that is logical, succinct and accurate</li> </ul>

<b>Foundation Skills</b>	
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<b>Skill</b>	<b>Description</b>
Numeracy	<ul style="list-style-type: none"> <li>Perform mathematical calculations to assist with analysis of packaging materials and costs</li> </ul>

<b>Unit Mapping Information</b>			
<b>Code and title current version</b>	<b>Code and title previous version</b>	<b>Comments</b>	<b>Equivalence status</b>
FBPTEC4002 Apply principles of food packaging	FDFTEC4008A Apply principles of food packaging	Updated to meet Standards for Training Packages  Minor changes to Performance Criteria to clarify intent	Equivalent unit

<b>Links</b>	Companion Volumes, including Implementation Guides, are available at VETNet: <a href="https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4">https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4</a>
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<b>TITLE</b>	<b>Assessment requirements for FBPTEC4002 Apply principles of food packaging</b>
<b>Performance Evidence</b>	
<p>An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.</p> <p>There must be evidence that the individual has analysed and evaluated at least two types of food packaging, including (for each):</p> <ul style="list-style-type: none"> <li>• analysing packaging system components, including:             <ul style="list-style-type: none"> <li>• materials used and interaction with product</li> <li>• costs</li> <li>• processes</li> <li>• legal and customer requirements</li> <li>• environmental and handling implications</li> </ul> </li> <li>• analysing and confirming safety aspects of processes and equipment</li> <li>• analysing non-conformances and packaging problems and determining probable cause</li> <li>• proposing improvements to the packaging system.</li> </ul>	

<b>Knowledge Evidence</b>	
<p>An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:</p> <ul style="list-style-type: none"> <li>• purpose of packaging and the properties of packaging materials designed to protect products and extend shelf-life, including the role of packaging in providing:             <ul style="list-style-type: none"> <li>• protection of products from contamination (microbial, pest infestation and physical damage)</li> <li>• barriers (atmospheric, moisture, flavour and light)</li> <li>• package seal ability and seal integrity</li> <li>• easy-to-open access to products</li> <li>• information to consumers about products</li> <li>• market appeal</li> <li>• materials and their properties</li> <li>• packaging interactions with food products</li> <li>• costs</li> <li>• features of packaging design that preserve products</li> </ul> </li> <li>• legislative requirements relating to packaged products and food safety</li> <li>• requirements of products handled in the workplace, including coated packaging products, and active/interactive packaging films</li> <li>• factors that influence the selection of packaging materials</li> <li>• corrective actions to prevent packaging non-conformance</li> <li>• characteristics of products, and their behaviour when packaged, across the shelf-life of the product</li> <li>• typical problems that occur in the packaging process, and likely causes and appropriate response options including:             <ul style="list-style-type: none"> <li>• pathogens and spoilage that occur in packaged food and the conditions required for their occurrence</li> <li>• intrinsic features of food type, including pH, water activity, nutrient content, presence of microbiological compounds, respiration rate (fresh fruit and vegetables) and biological structure</li> <li>• extrinsic factors, including processing method, temperature, water loss and humidity, maturity (applies to maturity of fruit and vegetables when harvested), handling, cleaning, sanitation and personal hygiene practices, and gaseous composition of storage atmosphere</li> <li>• food spoilage indicators, including microbial contamination, enzymic browning and sensory degradation of characteristics, such as flavour, aroma, colour and texture</li> <li>• the effect of gas composition for modified atmosphere packaging processes, including knowledge of the role of the most commonly used gases in food packaging (carbon dioxide, oxygen, nitrogen), reactions between gases, packaged products and packaging materials</li> </ul> </li> <li>• quality assurance systems to ensure that packaged products meet customer and legal requirements</li> <li>• relevant sources of technical expertise and related authority levels to address packaging issues.</li> </ul>	

### Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
  - skills must be demonstrated in a workplace setting or an environment that accurately represents a real workplace
- resources, equipment and materials:
  - product, packaging components and consumables
  - packaging process equipment
- specifications:
  - relevant standard operating procedures
  - packaging specifications
  - workplace information recording systems, requirements and procedures.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

### Links

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<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>