



Australian Government

FBPRBK4008 Apply bread baking science

Release: 1

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Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package version 1.0

Application

This unit of competency describes the skills and knowledge required to apply technical knowledge and principles of bread processing and ingredient sciences in the production of bread products in a commercial bakery. It includes the reactions of baking ingredients during mixing, processing and baking.

This unit applies to individuals who apply a broad range of specialised knowledge and skills to their own work. They take responsibility for bakery production, testing and problem-solving.

All work must be carried out to comply with workplace procedures, in accordance with State/Territory food safety, and work health and safety, regulations and legislation that apply to the workplace.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Retail baking (RBK)

Elements and Performance Criteria

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 aspects of ingredients on finished bread products	1.1 Read and interpret a Certificate of Analysis for breadmaking flour 1.2 Identify the impact of ingredients on final products, and consider these impacts when selecting, measuring and using ingredients

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Identify processes and techniques used in the manufacture of ingredients, and how these impact on ingredient characteristics</p> <p>1.4 Identify types of food additives used in bread products, their functions and the likely reactions they may cause when combined with other ingredients</p> <p>1.5 Identify the properties and reactions of sugars, proteins and fats, and their tracking points during baking production processes</p> <p>1.6 Identify the properties of common emulsions, suspensions and solutions, and their impacts on the finished product, when selecting ingredients</p> <p>1.7 Recognise common chemical and physical reactions, and factors required to cause a reaction, to control impact on the finished product</p> <p>1.8 Apply knowledge of ingredients, interactions and baking processes to predict product shelf life of finished product</p>
2. Analyse aspects of ingredient variations and changes in processing	<p>2.1 Identify the role and science of fermentation in bread products and apply process variations to achieve different outcomes</p> <p>2.2 Examine the features and benefits of different ingredient changes and interactions during fermentation</p>
3. Manage variations in baking processes	<p>3.1 Identify the role and science of mixing ingredients in bakery products and apply process variations to achieve different outcomes</p> <p>3.2 Identify the role and science of retardation in bakery products and apply process variations to achieve different outcomes</p> <p>3.3 Identify the role and science of freezing in bakery products and apply process variations to achieve different outcomes</p> <p>3.4 Identify the impact of temperature, moisture and time on production and product outcome in management of operations</p> <p>3.5 Identify the impacts of varying baking processes on production and product outcome in production planning and management</p> <p>3.6 Select and manage baking processes to maximise production efficiencies</p> <p>3.7 Identify and address production problems in process variations</p>

Foundation Skills

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.

Skill	Description
Learning	<ul style="list-style-type: none"> Undertakes independent research and experimentation and reflects on performance to build own knowledge and skills of food and bread baking science making methods
Reading	<ul style="list-style-type: none"> Sources, interprets and analyses baking science information from a range of technical food industry texts
Writing	<ul style="list-style-type: none"> Prepares reports on baking experiments, process and product specifications, using food scientific and technical language and formats appropriate to purpose
Numeracy	<ul style="list-style-type: none"> Extracts and interprets mathematical information embedded in technical baking industry texts Performs calculations and uses baking product formulas to interpret, adapt and adjust baking product processes Uses mathematical symbols and conventions relevant to the baking industry to document experiment outcomes, recipes, and process and product specifications
Get the work done	<ul style="list-style-type: none"> Uses problem-solving skills to analyse and evaluate bakery production ideas, processes and experiments, and decide on appropriate action Takes responsibility for planning, organising and implementing tasks required to achieve required outcomes

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPRBK4008 Apply bread baking science	FDFRB4003A Apply baking science to work practices	Redesigned unit with a focus on bread products, incorporating content from previous unit	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>